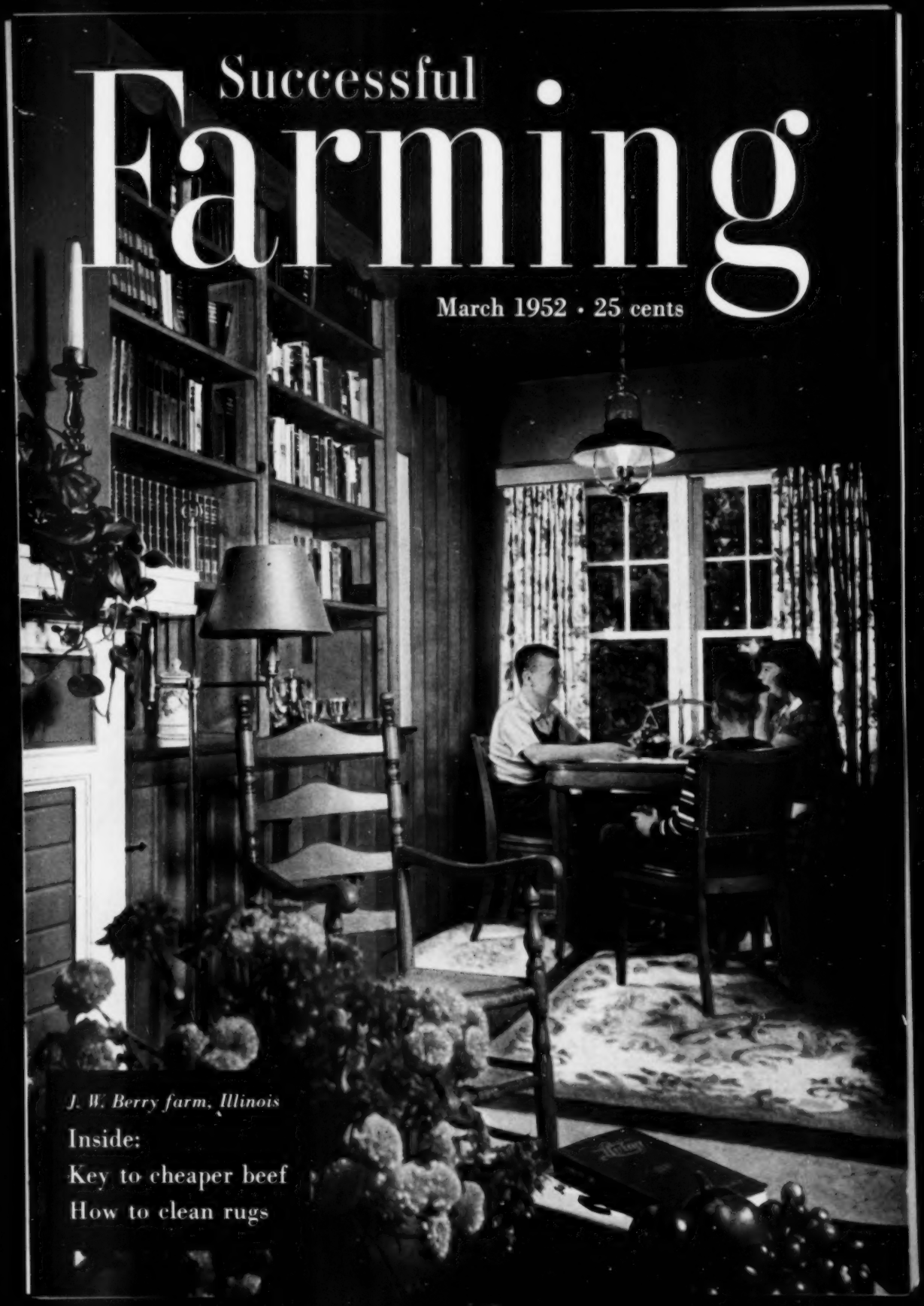
Successful Farming

March 1952 · 25 cents



J. W. Berry farm, Illinois

Inside:

Key to cheaper beef

How to clean rugs

American wheels of progress...
POWERED by the MODERN FARM TRACTOR!

LINE-UP OF PROFITABLE POWER
From top to bottom: the MM Model G, 4-5 plow power; MM Model U, 3-4 plow power; MM Model Z, 2-3 plow power; MM Model R, 2 plow power; MM Avery BF, 2 plow power, and the MM Avery Model V with one-plow power. Each Model available in wheel-tread types to meet your needs.

From muscles to motors . . . from flails to freedom—that is the story of America's rise from farm drudgery and pittance production to a mighty, unequalled output that still allows time for rest and pleasure. What has brought about that change? What important industrial development rewrote that economic pattern?

Tractor power!

Few, if any, machines have played such an important part in the nation's growth and progress as has the *modern farm tractor*.

THE TRACTOR MEANS ABUNDANCE. In just the last 30 years, gross farm production has increased 29% with virtually no increase in croplands. The farm output for human use has jumped 51% because most food now goes to people, not work animals. In 1944, the American farmer proved that he could produce enough to feed an additional 50 million persons when given the proper machinery.

THE TRACTOR MEANS ADVANCEMENT. In colonial days, farming demanded 85% of the available labor force to feed and clothe the nation. Today this percentage is reversed—15% of our working force does the farming with the help of work-saving, production-boosting modern machinery. This allows the other 85% to do the other jobs . . . perform the extra services that have come to mean the American way of life.

THE TRACTOR MEANS NATIONAL SECURITY. In peace or war the tractor is a national mainstay. It multiplies man's might to feed and clothe a nation or a fighting force. It supplies oils and fibers for industry. It frees workers for other jobs. *And* the tractor with its four kinds of power, serves as the labor-saving backbone of agriculture . . . *the one BASIC industry of all mankind.*

Here, surely, is an important part of America's might—*you*, the modern farmer, and *tractor power!* **See your MM dealer.**

Manufacturers of a Complete line of Modern Machines, Visionlined Tractors, and Power Units for Agriculture . . . and Agriculture is Basic to Our Economy.

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MINNEAPOLIS 1, MINNESOTA

MINNEAPOLIS MOLINE
MODERN MACHINERY

Three jobs in one—plowing, harrowing, seeding—that's what the farmer-businessman can do with MM U Tractor and Wheatland Disc Plow with Moline-Monitor drill seeding attachment.

Modern tractor power helps the farmer to beat the weather. With the MM Windrower he cuts and gently windrows grain before harvesting, reduces possible wind and rain losses in ripe stands.

An MM "first" is the new UNI-HARVESTOR which easily converts to either a self-propelled Harvestor or Corn Picker-Husker. Here's specialized tractor power at its modern best.

From planting through harvest, the modern tractor is the backbone of farming. Here the MM Z Tractor pulls the MM Harvestor 69—helps the farmer cut, thresh and clean his crop in one fast operation.

MM self-propelled HARVESTORS get the grain at lower net cost. Without equipment like this, modern farmers could not grow the food for industrial America.

Here's the MM Z Tractor and 12-foot G-4 HARVESTOR . . . a money-making combination at harvesting time. The G-4 is America's largest-selling combine of its type.

WHOSE WORD WILL YOU TAKE? Sure, any tractor tire can claim that it bites deeper, cleans better and pulls heavier loads. But what you want is proof. So just remember this:

Year after year, national surveys show that more farmers prefer Goodyear Super-Sure-Grips than any other make — by a tremendous margin! Why? Because farm experience proves they deliver "the greatest pull on earth"!

There's a down-to-earth, grass-roots verdict you can't ignore. Why take less than best—when Goodyears cost no more?

3 REASONS WHY GOODYEAR'S YOUR BUY!

STRAIGHT LUGS!—Goodyear lugs are ruler-straight and come closer together at the shoulders—providing the time-proved, wedge-like bite that holds the soil in place and gives this tire more traction — gives your tractor more pulling power!

O-P-E-N C-E-N-T-E-R pioneered by Goodyear. Most widely imitated of all tractor tread designs because farm experience proves it the most efficient—*when combined with straight lugs.*

NO WEAR SPOTS!—Goodyear *straight* lugs work against the soil evenly, pull evenly, wear more evenly—to lengthen tire life and make your tire dollars go farther.

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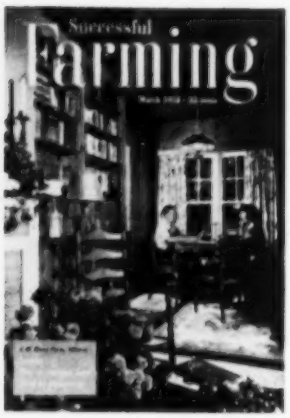
GOODYEAR

Super-Sure-Grip Tractor Tires

Super-Sure-Grip—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

This month



Photograph: Suter, Hedrich-Blessing

Ever drive along a new road and spy a house you would swear you had seen before? It happened to me as I drove along Highway 136 just west of Potomac, Illinois.

A stop was irresistible—and then I recognized the house. This was House Plan No. S1101, one of many *Successful Farming* has offered its readers through the years. I was pleased—editors *always are* when they see one of their magazine's houses actually "come alive."

The J. W. Berry family built No. S1101 (pictured at bottom of column) in 1945, and our cover this month, showing their attractive living-dining room, is proof that we were taken with their delightful home.

But what really caught this editor's eye were the *unusual* touches in the Berry house. Credit for them goes to Mrs. Berry, who made all the handsome lamps and planned the decorating. More of her story is told on pages 46 and 47—"Their Home Is One of the Family."

Among the delightful things about meeting the Berrys was the obvious pleasure and pride they take in their new home. Dad Berry and sons, Randy and Billie, unanimously agree that it's a mighty nice place to come home to after a day outside.

Photographing this home was truly a pleasurable job where nary a flash bulb was wasted, not even the used ones. Born sharpshooters Randy and Billie took care of the latter with a general target practice in the back yard. Good shots, too! *—Ray Scott Jones.*

Successful
Farming
The Dairy Farmer

THE MAGAZINE OF FARM BUSINESS AND FARM HOMES
March, 1952 Vol. 50, No. 3

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FOR WANT OF A NAIL . . .

Shoe, horse, rider, battle and kingdom were all lost. Such "chain reactions" often have small beginnings.

A man puts off talking to his life insurance agent "until next week" or "until next season" or "until the crops are in." Until . . . until it's too late.

And then, just for want of his name on an application, his wife's security may be lost, his children's education may be lost and perhaps the farm may be lost.

Don't you think it would be a good idea for you to get in touch with your New York Life agent now—before it's too late—and get your family's future security "nailed down" right away?

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Farm Outlook

Latest information on conditions, production, markets, and income prospects

Better markets ahead

Several things now boost your farm-income prospects. The food supply isn't as big as the U.S.D.A. has been saying; at the same time, *consumer demand and buying power continue to rise.*

Government crop and livestock estimates affect prices; they raise prices when estimates are low, and reduce prices when estimates are high. Census takers couldn't find all the crops and livestock the U.S.D.A. had piled up in the last six years. Biggest discrepancies came in 1951.

Consumer demand for food will continue to mount as defense program expands. Government officials say now peak of defense production won't be reached until 1953. This means continued high employment and wages through the marketing period for your 1952 crops and livestock.

Add to this a greater increase in farm production than had been thought possible within the limits of available cropland—*multiplied by a high level of prices for farm products.*

High goals

Farm-production goals have been kept high in spite of downward revisions in crops and livestock for last year and preceding years. Goal for feed grains is a record-high 128.1 million tons—a 12.5-percent increase over 1951 output.

Goal for corn alone is nearly 3.4 billion bushels—a 15-percent increase over last year's poor crop. Increase is expected from 6-percent increase in acreage, *remainder from higher yields on total acreage.*

Cornbelt last year upped corn by 3 million acres drawn from oats. This year you are asked to up corn an extra 3 million acres without cutting further into oats. Can you do it?

Keep hay and pasture

You are urged not to reduce hay and good pasture. These supply a full 50 percent of all feed consumed by livestock. Corn supplies 25 percent. Oats, barley, grain sorghums, and by-product feed supply most of the remainder.

On many farms, good hay and pasture reduce the cost of producing a pound of beef or milk. Good pasture cuts down on labor and machinery—most important now when labor is scarce and machinery is no bargain. For short-term gains, only poor pasture should be put to grain.

Fewer pigs

Census couldn't find all the pigs the U.S.D.A. said there were. The 1951 crop alone had to be deflated by nearly 4 million head that never existed. Production during the last six years was deflated by nearly 11 million head that never existed. That's as many as all the farmers in Illinois produced last year.

Current figures show that last fall's pig crop was *little more than half of previous estimates;* and that the 1952 spring crop is down nearly 5.5 million head—or 9 percent—from 1951.

About 60 percent of all the spring pigs will be farrowed in March and April. How many are saved is up to you. Cornbelt averaged 6.51 pigs saved per litter last spring, compared with 6.35 in preceding 10 years. Hogs should sell higher next fall.

More beef

Many cattlemen think more cattle will go to slaughter this year, but that prices won't decline much. Upholding the price will be a consumer appetite that will take more beef as the price of pork goes up and the price spread narrows between beef and pork.

B.A.E. also reports that cattle numbers have been overestimated by 2 to 2½ percent. This revision lowers the probable size of the increase in this year's cattle slaughter.

Lambs and wool

A year ago fantastic prices for wool made for exceptionally high prices for lambs. The lower prices for wool this winter account for the lower values for lambs.

The supply of mutton and lamb dropped to about 3 pounds per person in 1951. This compares with 5 to 7 pounds in each of the 50 years before 1949. Marketings of lambs will remain small for several years. A good flock of ewes will make money for farmers who are willing to learn to give them good care. Sheep can turn much unsalable roughage into profit. They fit well into soil-building programs, too.

Dairy income up

Milk and butterfat prices are expected to decline less than seasonally during the coming months of heavy milk production. Reason is a better balance between the supply and demand for milk and milk products. Look for larger income checks.

Profits will depend upon how well dairy farmers control costs. Good pasture will pay dividends this spring and summer. *Get cows on pasture early.*

Government loans

C.C.C. loan business has been small this year, as price-supported commodities have ruled pretty consistently above support levels. Supports for 1952 crops will be the highest ever: National averages of not less than $1.59 a bushel for corn and $2.17 for wheat, and national averages of 78 cents for oats, $1.22 for barley, $1.42 for rye, $2.38 for grain sorghums, $3.77 for flaxseed, and $2.58 for soybeans.

Poultry prices tight

Poultry profits will continue tight during the next 60 to 90 days. Eggs are more plentiful than a year earlier. Take good care of eggs, especially as warm weather approaches. Egg-cooling rooms, with proper humidity and temperature, help maintain quality.

Broiler production for growers with space, equipment, and know-how for commercial operations looks favorable. Demand should be sufficient to return a reasonable margin above high labor and feed costs. Small producers may find it difficult to compete. Trend is toward mass production.

Feed supply

The feed supply is down; there is nothing in the picture that suggests heavy unloading of livestock. Biggest reduction is in corn, but this is from record-high stocks the last few years. With good yields, stocks could be built up again this year.

Farm stocks of other feed grains are about average, and the supply of hay is the biggest ever for this time of year. Good crops of feed grains this year would make feed price ratios a lot more attractive next winter.

Wheat goal cut

Encouraged by prospects for a big winter-wheat crop, the U.S.D.A. is suggesting a cut of a million acres below last year's spring-wheat seedings. Wheat supply is expected to total about 1.5 billion bushels in 1952-53, about half of which will be used here at home and about half of the remainder exported. This would leave about 400 million carryover in July, 1953. END

You can't see the difference but it's there!

Most farmers know that from the use of *balanced* feeds they get more practical benefits—healthier cattle, improved milk production. Below, Standard Oil Agent, Vic Charley, shows Anton Welzen, Mundelein, Illinois, how the use of *balanced* gasoline (like *balanced* feed) gives best results. "You can't see the difference between ordinary gas and balanced STANDARD RED CROWN Gasoline but it shows up in more powerful, more economical performance of your tractor," says Agent Charley.

Farmer Welzen likes to do business with his Standard Oil Agent for the same reasons that appeal to thousands of other Midwest farmers: *quality products, dependable delivery, friendly service*. Right now he has his first Spring fill of 650 gallons of fuel in his tanks—ready to take advantage of every weather break in the busy season ahead. Now's the time to get *your* storage tank filled. Call your Standard Oil Man today.

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I salute

When I wrote to one of our subscription salesmen complimenting him on quite remarkable achievements under hard circumstances, I received a prized reply. "What I have accomplished in my years seems to me only the rightful duty of any one of us. I do the best I can at all times under existing conditions. That is only what any man should be able to do."

Handbooks

I like a farm handbook. Its neat condensation of thousands of important farm facts helps me refresh my memory, and to store in it much new information. *The Farmers Handbook* by the Eastern States Farmers' Exchange, West Springfield, Massachusetts, is one of the very good ones I have received recently. It covers just about everything from antibiotics to the zebra moth.

From Iowa State College Press, Ames, there came the second edition of the *Midwest Farm Handbook*. And again I find everything from animal husbandry and beekeeping to X-disease. Until you have at least had a glimpse of the index, you may not fully realize the complicated nature of agriculture. A few well-done handbooks can save you a lot of time hunting for information. Add several to your home library.

Purebreds

Opposition to breeding programs involving inbreds, crossbreds, and hybrids at the U.S.D.A. and state experiment stations is unwise, I think. Fair and honest reports of all results must be demanded. Beyond that, any purebred breeder must be content to keep an open mind. The columns of *Successful Farming* have carried reports of the developments in this work without giving them endorsement. The farmer himself must be the final judge. And he will judge on the basis of over-all profits, and not on fanciful claims and show-ring achievements.

In my opinion, our leading breed associations must make some drastic changes in the next few years if they would continue to operate. Certainly the system they represent has tremendous future possibilities. But staying chained to score cards of a hundred years ago and association laws outmoded by scientific research is the sure road to suicide. Fighting everything that is *different* on the road to more profitable livestock raising is likewise suicidal.

The 4-H project

Springlike signs are noted in hurrying 4-H members who are getting busy with the projects they will carry through the season. Clubs are being organized and reorganized. I extend best wishes to these ambitious young folks, and I hope all records for enrollment may be broken. Labor shortages will be one serious obstacle to 4-H Club work this year.

For every active Club there must be an intelligent, public-spirited local leader. You fathers and mothers who volunteer for this very important duty are the keystone of the 4-H movement. You have a great opportunity, and you have made the most of it. Your devotion to these young folks in their work will be stimulated by reading *The 4-H Story*, by Franklin Reck. This is seeing the forest without losing sight of the trees. With the whole inspiring story, your understanding of farm-youth work will be greatly enhanced. The Iowa State College Press also publishes this book.

Unchopped silage

As usual with any new idea, many theoretical objections have been raised to uncut grass silage. They are largely focused on getting the stuff out of the stack. After talking with men who have tried it, I am convinced farmer inventiveness already has removed most of the obstacles. If the idea has merit, details will be worked out. And I am convinced the unchopped grass puts silage in reach of thousands who need it, but can't afford it. As a substitute for chopped silage, it lacks sales appeal, I'll admit.

Soil losses

I do not think actual soil-saving practices on individual farms are as far advanced as they should be. The former chief of the Soil Conservation Service in his annual report finds the progress to date wholly satisfactory. I must admit much has been done.

If you are one of those who thinks his property tax pretty heavy, you will be interested in the way one *Successful Farming* reader looks at soil losses. He figures they are roughly one-half his tax bill per acre each year. He believes each farmer must start thinking of soil conservation as a personal matter if we are going to get the job done.

Kirk Fox

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Tips you can use today

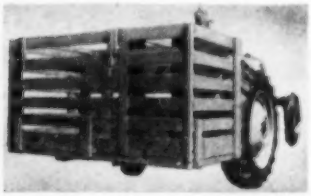
Fertilizer injector. This unit is used for applying fertilizer to the soil along with the irrigation water. Fertilizer is placed in the 40-gallon tank which connects to the irrigation line. The unit is said to dissolve and inject all soluble fertilizers and many types of agricultural

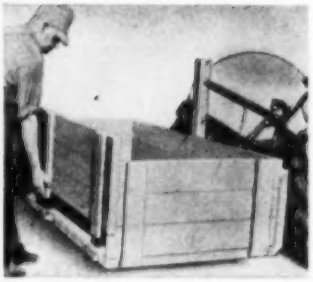
chemicals, such as insecticides.—*Dragon Engineering Company, 2800 Frye St., Oakland 2, California.*

Conversion unit. A new assembly converts the Ferguson 2-disc plow into a 3-disc implement. The third disc, 26 inches in diameter and 3/16 inch thick, adds 10

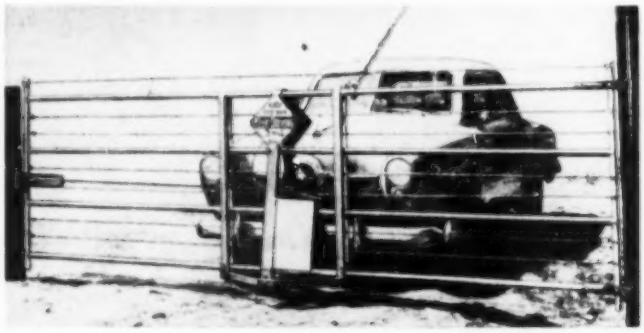
inches to the normal cutting width of 20 inches. The 3 discs are set at a 50-degree angle to the direction of travel and can be adjusted vertically from 17 to 23 degrees to meet changing soil conditions.—*Harry Ferguson, Inc., 3630 E. Milwaukee Ave., Detroit 11, Michigan.*

Tractor-mounted carrier. This carrier is designed to fit tractors equipped with hydraulic lifts. The carrier has over 1,000 pounds capacity. A platform and back can be supplied for carrying milk cans or similar small items. By adding 3 sides to the platform and back, the carrier becomes a grain box. A stock rack can also be added to the basic platform. Base frame and platform measure 3'x5½'. The grain box is 1½' deep and the stock rack is 3' high.—*Yetter Manufacturing Company, Colchester, Illinois.*





Timesaving gate. You don't have to get off the tractor or out of the car to open this gate. The gate can be opened by bumping the center with car, tractor, or truck. Bumping gate releases locking device and allows gate to swing open. The gate closes and locks automatically and is said to be tripproof against stock of any kind. The gate allows ample time for vehicles to get through before closing.—*The International Steel Company, 529 S. Seventh St., Minneapolis 15, Minnesota.*



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- 115 basic models with a wide variety of specialized bodies. Gross vehicle weight ratings from 4,200 to 90,000 pounds.
- The same traditional truck toughness that has kept Internationals first in heavy-duty truck sales for 20 straight years.
- Service by nation's largest exclusive truck service organization.

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OF COURSE HEINZ CHEFS won't tell exactly how they achieve the can't-be-copied flavor of Heinz Tomato Ketchup. But you may be sure that they insist on rare spices, fine vinegar and Heinz "Aristocrat" tomatoes. Add to this 83 years of skill and you've a sauce that makes plain foods irresistible! Ask your grocer for Heinz Ketchup. You know it's good because it's Heinz!

HEINZ
KETCHUP 57

● You'll find it takes just a dash or two of HEINZ WORCESTERSHIRE SAUCE to transform plain stews, hash or leftovers into second-helping favorites! Get a bottle of this rich, full-bodied English-style sauce at your grocer's!

● You can count on HEINZ OLD-FASHIONED MUSTARDS —mild, tangy Yellow and full-strength Brown—to glorify ham, cheese sandwiches and many other dishes!

Books

for your pleasure and profit

By Robert West Howard

Whether the outdoors purrs like a baby lion or snorts like an angry ram, March is decision month on most farms. And in these unsettled days, on a continent 3 jet-plane hours wide, farm decisions encompass world politics, community, and organizations, as well as home and business. So here are some new books that should be particularly helpful for "decision month."

With a presidential election coming along, we can look forward to a rash of books on foreign policy and: "How I, Candidate Soanso, Intend to Run the Guv'ment." Before buying any of them, it would be a good idea to read **Master Plan, U.S.A.**, by John Fischer (Harper & Bros., 49 E. 33rd St., New York, New York, $3).

John Fischer isn't running for office. But as a farm boy out of Oklahoma who became an excellent reporter and political analyst, he set out last year to learn if the United States does have a master plan against Russia, and if so, what its chances are for success. **Master Plan, U.S.A.** is the report of his discoveries, written without political bias and concluding that, "For the stout of heart, this is a good time to be alive." Read it, before a local party worker gets to you with any of these "Candidate Soanso" books.

Another splendid book is **Government Is Your Business** (Doubleday & Co., Inc., 575 Madison Ave., New York 22, New York, $2) by the Reverend James Keller, M. M., head of the Christophers, Inc. Father Keller writes of modern government in terms of the individual, the Declaration of Independence, the Constitution, and the Bill of Rights. What can *you* do about government? He tells hundreds of stories about ordinary citizens who have made government "their business," and brought changes for public betterment.

Two major trouble spots in the world today are Argentina and Iran. They're both part of the American farm problem, for a variety of reasons. **Iran, Past and Present** by Donald N. Wilber (Princeton University Press, Princeton, New Jersey, $3.50) is a compact report on the geography, history, land problems, and racial strife of the ancient land we called Persia until a few years ago. An archaeologist who has lived in Iran intermittently since 1935, Doctor Wilber knows the background of the current situation there.

Dr. Robert J. Alexander, professor of economics at Rutgers University in New Jersey, has done an equally good reporting job on Argentina's dictators in **The Peron Era** (Columbia University Press, New York 27, New York, $3.50). Following a term as United States correspond-

ent for a Buenos Aires newspaper, the author spent two years in South America on a research grant from the United States Office of Education. There he dug out the full story of Colonel Juan Peron, the brassy little radio actress, Evita Duarte, their marriage, their capture of the national government.

Peron's threat to the United States is obvious in view of the recently reported order from Moscow to the Argentine Communist Party to "pipe down, because Peron is doing an excellent job for us." The chapters on Argentine agriculture, with discussions of land factories and the migrants who make up 68 percent of the rural population, are of particular interest.

It's always exciting to find a man of moderate means—without any ax to grind—who has enough faith in neighborliness to write and publish a book about rural life. The Reverend J. R. Kidwell of La Pryor, Texas, is a veteran Methodist circuit rider. Last year he poured all his convictions about country living into **The Rural Community** (The Naylor Co., San Antonio, Texas, $2.75). You'll enjoy it if you believe in neighborliness and homespun philosophy.

Solid reading, and worth it, is **Building for Modern Man** (Princeton University Press, $3.50), a report of 60 famous architects and construction experts. In view of the dilemma confronting agriculture in barn design, school centralization, and home building, it's enlightening to read what Walter Gropius, Sigfried Giedion, Robert B. O'Connor, Frank Lloyd Wright, and other famous builders foresee for housing design and community planning.

Three farm business books are recommended for your time and money this month. **The Molds and Man** by C. M. Christensen (University of Minnesota Press, Minneapolis 14, Minnesota, $4) is a scholarly report on the fungi and the part they play in farming. The Orient, he points out, is way ahead of us in using fungi to produce soy sauce, soy cheese, and other protein foods from soybeans and rice. Fungi research can give us many rich meat substitutes from field crops.

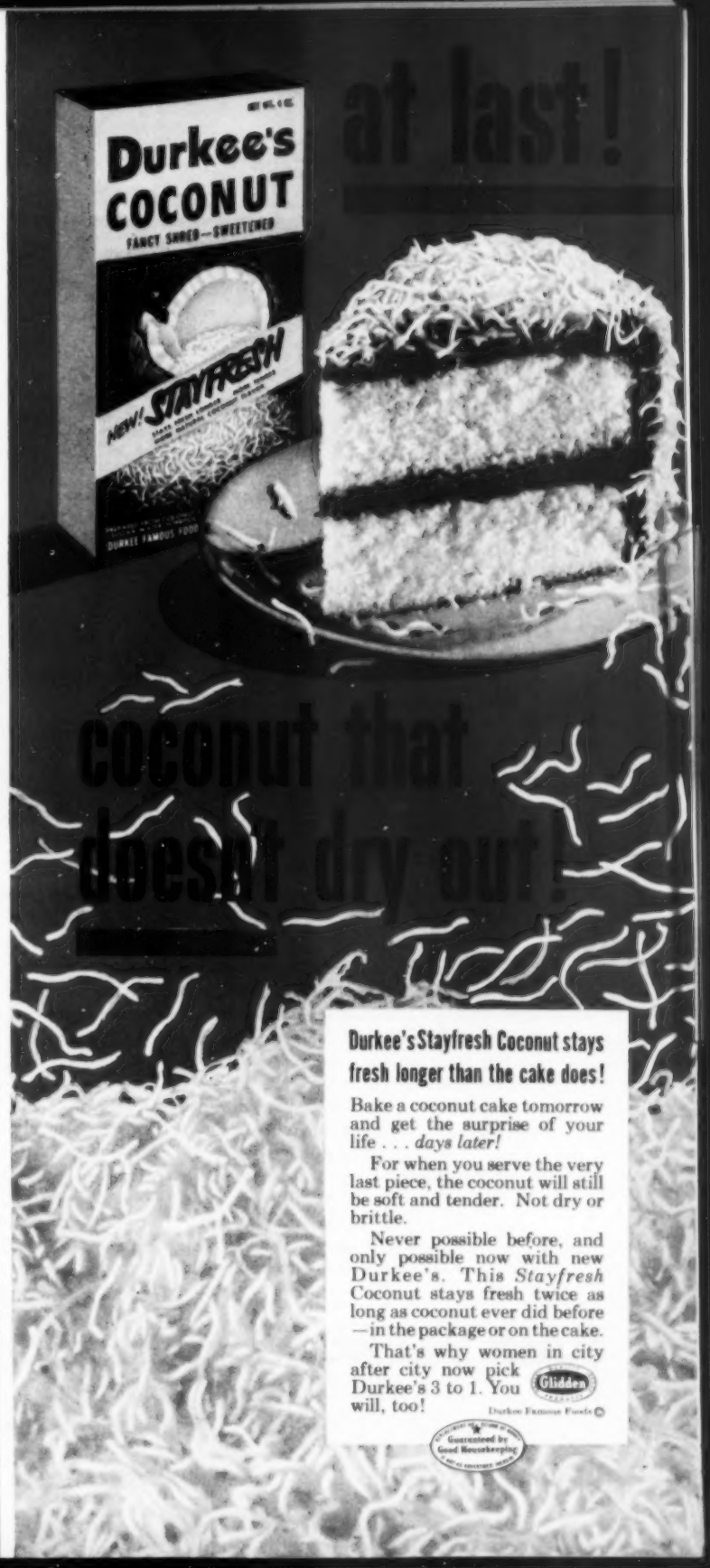
Rural Electrification by J. P. Schaenzer (Bruce Publishing Co., Milwaukee 1, Wisconsin, $3.75) is an all-round text on farm electricity and its uses, with ample charts, photographs, and equipment instructions. The author describes 450 uses for electricity in farm living.

Lady Eve Balfour's **The Living Soil** (Devin-Adair, 23 E. 26th St., New York 10, New York, $4) is a classic in the literature of soil vitality and its relationships to human health, just issued in its first American edition.

And, for sheer good living—laughter, reflection, and faith—buy or borrow:

Neither Hay nor Grass by John Gould (William Morrow & Co., Inc., 425 Fourth Ave., New York 16, New York, $2.75). The Maine philosopher reflects on the color of lamb stew, piemaking, whittlin', and "interim cider."

The Family Book of Favorite Hymns (Funk & Wagnalls Co., 153 E. 24th St., New York 10, New York, $4.95). This department is a softie for piano-rack songbooks. Here are 105 of the best "old roarers," complete with music and two-color illustrations. **END**



Choice of the Tractor-Wise

WHEN it comes to determining tractor value, "experience is the best teacher." Thousands of today's John Deere owners know from personal experience with other tractors that you just can't equal a John Deere. These tractor-wise farmers, and thousands more who "value-shopped" before they bought, have found that the exclusive John Deere "*two-cylinder* idea" really pays off in more dependable performance season after season . . . in fewer and far lower repair bills down through the years . . . in longer tractor life.

Equally important, these owners have found that John Deere's advanced engineering provides a greater combination of modern operating features to speed up every power job, do it better, make it easier.

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NEW TESTS SHOW

pigs need less protein

It's possible to save 100 pounds of 40-percent-protein supplement for every 240 pounds of pork sold. A balanced ration plus antibiotics is the answer

By Dean C. Wolf

With most livestock producers hot after more and more protein, welcome news for the nation's hog raisers has been announced.

Research completed under the direction of Dr. Damon Catron at the Iowa Agricultural Experiment Station has shown that protein levels can be reduced *2 to 4 percent* in dry-lot rations for pigs from weaning to market.

In the dollars-and-cents language of practical farm economics, the research promises to save hog producers quite a sum of money. Probably more important, however, the new findings should encourage hog men to keep production up in the face of narrow feeding margins.

Figured another way, if you have been feeding high levels of protein, the results of this research indicate that you can save from 79 to 117 pounds of 40-percent supplement — equivalent for every 240 pounds of pork you market.

The Iowa station set up its experiments on protein needs of hogs for several reasons. New nutritional discoveries were putting ingredients in rations that could very well be upsetting the balance of other ingredients such as proteins.

For the experiment, a total of 128 Duroc weanling pigs were carefully selected to insure pigs as uniform in breeding, previous treatment, weight, condition, and age as possible. A split-plot experimental design was used so that the interaction of aureomycin—one of the antibiotics—and different levels of protein could be measured. Although aureomycin was the only antibiotic used, other antibiotics may produce the same results.

Research workers had a hunch that aureomycin might affect the amount of protein needed in rations.

The researchers also wanted to find out whether recommended protein levels were too high even for rations containing no antibiotic. Half of the pigs on each level of protein were fed the antibiotic. All pigs were in concrete dry lots.

Pigs were self-fed rations containing different levels of protein according to their stage of development. One group was fed a ration containing 20 percent protein from weaning to 75 pounds, 17 percent from 75 pounds to 150 pounds, and 14 percent on to market weight.

The second group got 2 percent less protein all the way through—18 percent from weaning to 75 pounds, 15 percent from 75 pounds to 150 pounds, and 12 percent on to market weight.

The third group got 16 percent from weaning to 75 pounds, 13 percent from 75 pounds to 150 pounds, and 10 percent to market weight.

A fourth group was fed a ration containing 14 percent protein from weaning to 75 pounds, 11 percent from 75 to 150 pounds, and 8 percent the rest of the way.

The rations were composed of ground yellow corn, solvent soybean oil meal, special steamed bonemeal, iodized calcium carbonate, a trace-mineral mixture, iodized salt, and a vitamin premix. The vitamin premix included vitamins A and D, the B-complex vitamins, vitamin B_{12}, pantothenic acid, choline, folic acid, niacin, pyridoxine, riboflavin, and thiamin. The trace minerals fed included iron, copper, cobalt, manganese, and zinc.

Protein levels were changed by adjusting the corn and the soybean-oil-meal content of the ration. The lowest protein level fed—8 percent—represented a "corn-alone" ration without protein supplement. However, it contained the vitamins, minerals, and trace minerals.

Results show that protein levels generally recommended for dry-lot feeding are too high if rations are balanced in respect to non-protein diet factors.

There was no significant difference in daily gains when protein levels were varied during the feeding period from weaning to 75 pounds. Pigs did as well on the low levels as on the high levels. This was true whether an antibiotic was present or absent.

There was no difference in feed intake, but there were differences in feed required to produce 100 pounds of gain. The antibiotic apparently increased feed efficiency.

In the weight period from 75 to 150 pounds, the daily-gain trend was in favor of the lower-protein groups with the antibiotic either present or absent. About the same picture was true for feed intake. Feed efficiency was affected, with a steady increase in feed efficiency as the percent of protein was lowered in groups receiving rations containing no antibiotics. In the antibiotic-fed groups, the feed efficiency remained relatively constant for all protein levels.

Doctor Catron points out that continuation of excessively loose feces in the pigs fed higher levels of protein without aureomycin probably caused the accompanying decrease in feed efficiency. Pigs fed aureomycin showed no signs of this loose condition even on the higher levels of protein.

In the final [*Turn to page 162*

Only COLGATE DENTAL CREAM

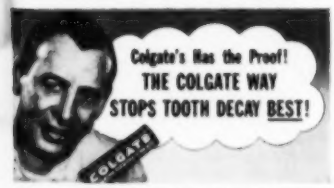
HAS PROVED SO COMPLETELY IT

STOPS BAD BREATH*!

***SCIENTIFIC TESTS PROVE THAT IN 7 OUT OF 10 CASES, COLGATE'S INSTANTLY STOPS BAD BREATH THAT ORIGINATES IN THE MOUTH!**

For "all day" protection, brush your teeth right after eating with Colgate Dental Cream. Some toothpastes and powders claim to sweeten breath. But only Colgate's has such complete *proof* it stops bad breath.*

Colgate's wonderful wake-up flavor is the favorite of men, women and children from coast to coast. Nationwide tests of leading toothpastes *prove* that Colgate's is preferred for flavor over all other brands tested!



Yes, science has proved that brushing teeth right after eating with Colgate Dental Cream stops tooth decay *best!* The Colgate way is the most thoroughly proved and accepted home method of oral hygiene known today!

No Other Toothpaste or Powder OF ANY KIND WHATSOEVER Offers Such Conclusive Proof!

Get PURE, WHITE, SAFE COLGATE'S *Today!*

The farmer's Washington

By Richard Wilson

- **How the Democrats plan to win your vote**
- **Does Eisenhower know anything about farm problems?**
- **Truman, Farmers Union agree on price supports**

Politics. Behind the scenes in Washington, the Democratic party has been laying the groundwork for its farm campaign in 1952.

The general theme agreed on by Agriculture Secretary Charles Brannan and Democratic National Chairman Frank McKinney is this:

"You farmers are better off than at any time before. Don't take a chance on a change. You wouldn't do it in your own business."

That will be the general appeal. Then there will be a supplementary appeal. This will be to those farmers who want still more help from the government, and to those growing perishable crops who think there must be some better way to stabilize the business.

All this is a very serious matter in the Democratic party. Many quiet powwows have been held. A research expert has been hired by the Democrats to prove that farmers and everyone else are better off than ever, and will continue that way if they stick to the Democrats.

White House huddle. Secretary Brannan recently held a private and very secret huddle with President Truman on the Democratic strategy. They decided it would be about this:

Elevator operators will be blamed for the scandal involving huge grain losses estimated to run up to $5 billion.

Senator John J. Williams of Delaware will be blamed for creating a situation forcing the government into bad—and expensive—deals permitting huge profits to private operators of government-owned warehouse properties. (It is claimed his amendment prevented the department from directly leasing government-owned buildings for grain-storage purposes.)

The Democrats will try to take the initiative just as President Truman did over the whole scope of the government program in 1948.

They will claim that the grain losses represent only about 1/20 of 1 percent of the value of all the farm products stored in the government's programs over the years, and that it is a miracle the farmers have been able to protect their interests so well against private operators.

This will make a lot of farmers and a lot of elevator operators boil, but that is the Democratic strategy.

But, at least, the U.S.D.A. and the government farm programs are definitely on the defensive in a material way for the first time since they were instituted. This is more campaign ammunition than the Republicans have had for a good long time.

Ike and the farm problem. You will search a long time and then never find that General Dwight D. Eisenhower has ever said anything to define his views clearly on the problems of farmers.

Nor is he very likely to. Eisenhower is a farm owner himself, but it is the kind of farm a man wants to retire to rather than to work for a living. Ike's backers in Washington, however, claim there will be no problem on his farm views.

They point to his repeated statements about the government's becoming too big and overpowering, and threatening to destroy the American way of life. What is not clearly understood about the Eisenhower campaign is that one of the big people in it is Senator Frank Carlson of Kansas, former governor of that state, and, in general, aligned with the point of view of the American Farm Bureau Federation. Eisenhower probably has talked more bedrock politics with Carlson than with any other member of the Senate—certainly more than with any other Midwesterner, and probably more than with any other politician.

There are indications that Carlson's talks with Ike have been more intimate than those of Senator Henry Cabot Lodge, Jr., with the general. Lodge, of Massachusetts, is head of the Eisenhower-for-president committee.

Still, the Eisenhower backers admit frankly that there has been some misunderstanding between the Eastern backers and the Western backers.

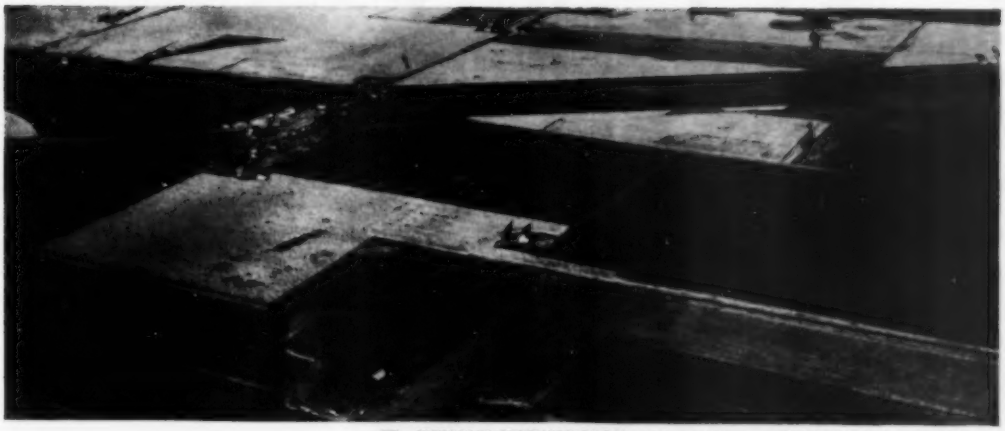
Some of his supporters would have preferred to see Ike clearly labeled as a Midwesterner from the first. But this was not entirely satisfactory to the Easterners. What the Midwesterners feared most was that Ike would become too closely identified with Thomas E. Dewey, who failed to make a go of it in his Midwestern campaign in 1948.

So it was agreed that Lodge would be brought in to head Ike's campaign as a sort of compromise. The weakness of this is that Lodge is an Easterner among Easterners, with little knowledge of organizing politics in either the Midwest or the Far West. That apparently is to be left to Senator Carlson and to Republican National Committeeman Harry Darby of Kansas.

Midwesterners feel, however, that steps will have to be taken before the convention in July to bring home again to the Midwest that Ike springs from there, is proud of it, understands the problems.

Patton-Truman program. President Truman's program, newly announced, to expand the farm-price-support program

[*Turn to page 18*



The **WILLIAM GEHRING FARM** works 5,400 acres of rich black loam soil in the northwestern part of Indiana. The farm is almost completely self-sustaining, with its own drainage and irrigation system, as well as its own garage, machine shop and stock room. A production line conveyor system washes, dries, grades and packs tons of potatoes daily at the height of the season.

"POTATOES ON A PRODUCTION LINE BASIS REQUIRE SPARK PLUGS WE CAN DEPEND UPON"

says Mr. Ernest Munter, Agricultural Engineer on the William Gehring Farm, Rensselaer, Indiana

The William Gehring farm is one of the nation's largest growers and packers of potatoes. In addition, it raises substantial crops of onions, field corn, peppermint, spearmint and wheat. This up-to-the-minute farm operates 60 tractors, 54 pieces of automotive equipment and some 40 stationary engines to give modern mechanized efficiency to scientific farming methods. Mr. Munter goes on to say: "Specially designed farm equipment such as our self-powered potato diggers can't be replaced on the spur of the moment. Engine failure on one of these machines at the peak of harvest could cost us a lot of money. That's why, over the years, we've come to depend on Champion Spark Plugs. For Champions assure us the best in engine performance, economy and dependability."

FOLLOW THE EXPERTS

DEMAND CHAMPION SPARK PLUGS FOR EVERY FARM ENGINE
CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

Mr. Munter examines potatoes being unloaded from a truck to the conveyor belt which takes them through two washings, two dryings and finally the packaging operation.

Self-powered diggers designed by Mr. Munter dig the potatoes, put them on a conveyor belt, shake the dirt and vines loose and dump the potatoes in trucks.

Migratory field workers ride the diggers up and down the rows removing the vines from the hoppers of the machines to prevent clogging.

Mr. Munter and Mr. William Gehring, owner and manager, inspect potatoes on the loading dock. Trucks will speed the shipments to large city markets across the country.

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Even Grimiest Hands Clean in 30 to 50 Seconds with amazing LAVA SOAP...

Of all leading soaps ONLY LAVA has "HAND-BRUSH ACTION" right in its creamy lather!

Contains thousands of tiny "scrubbers" that clean like a gentle hand brush—get dirt out of skin creases, 'round nails!

Zingo! Hands sparkling clean in seconds – no matter how greasy or grimy the chore! No ordinary toilet soaps compare. Yet Lava is *mild* enough for tots! Get plenty today. World's *only* leading soap with "Hand-Brush Action" right in its creamy lather!

Enjoy Lava's "Hand-Brush Action" *whenever* hands are washed!

★ Rich lather in hardest water!
★ Leaves hands softer, smoother!
★ Saves towels; no more smudges!

LAVA SOAP CLEANS LIKE A HAND BRUSH... LATHERS LIKE CREAM!

Farmer's Washington

[*From page 16*]

is almost identical with that recommended by the Farmers Union, investigation shows.

In a recent statement, James Patton, president of the Farmers Union, said: "If farmers produce an abundant crop of basics this year, meeting our needs and keeping prices down, they will penalize themselves for the next 10 years under the 10-year-average price provisions of the 1949 act." That was Patton's program before the president spoke, and when Mr. Truman did speak, it was found that he was advocating the Patton program. Both urge revision of the sliding-scale provisions of the farm-price-support law.

Missouri Valley. When President Truman recently set up a Missouri Valley Commission to work out a program for the valley, he was, in the opinion of informed persons in Washington, really opening a drive for greater development of hydroelectric power.

The Department of Interior has a grandiose plan to link up power lines into a great "grid" system through the Midwest and Far West at an estimated cost of $10 billion. Not much has yet been said about that program, but it will play its part in the Missouri Valley studies.

Weak seed. U.S.D.A. has been investigating the sale of mislabeled alfalfa seed to farmers in Wisconsin, the Dakotas, Minnesota, and Iowa. Several thousand bags were seized last spring. It was seed not intended to be sown in the northern areas, though sold for that purpose. There is a lot of politics involved in this investigation. Friends of the Truman administration have been tied up in it, and it will be interesting to see what happens as a result of the sale of alfalfa seed suited to southern planting, to farmers in the snow-and-ice belt. END

Brighten with white paint

Plain white paint has a way of freshening up rooms and making old objects look quaint and pretty instead of outdated.

For instance, imagine your fireplace with the inside whitewashed or calcimined and filled with pots of pink begonias or cool, green leaves. It would be a refreshing sight when summer's heat makes thoughts of a hot fire unpleasant.

You could also try a coat of white paint on the old chandelier that dates your dining or living room. With the addition of little individual shades in a contrasting dark color, the fixture will add new beauty to your room.

Even your old, pedal sewing machine can be improved with a coat of white enamel. Cut out splashy wallpaper flowers to paste on the top, and have fun decorating it. Protect the paper with a thin coating of white shellac to make it last.

Don't be afraid to try your own ideas to add a little fun to home decorating.

Goodbye Heating Chores

WITH THRIFTY

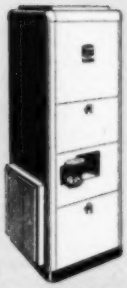
TIMKEN *Silent Automatic* HEAT!

Enjoy the Finest Automatic Heat Money Can Buy, at a Price You Can Afford to Pay!

You'll never make a cent while nursing the furnace! Install Timken Silent Automatic Heat and save time and work for more profitable tasks. Enjoy this thrifty home improvement that takes over *all* your heating chores—lets you come and go as you please—keeps your house at exactly the right temperature.

More than 25 years of Timken Silent Automatic engineering know-how has gone into this *wall-flame* equipment to make it the most efficient, most dependable on the market. This means trouble-free heating comfort, year after money-saving year. What's more, your local Timken Silent Automatic Authorized Dealer is a responsible, qualified heating expert—ready at all times to give you reliable, factory-approved service (if you ever need it).

Hundreds of thousands of satisfied users—folks who appreciate convenience and also know the value of a dollar—have found Timken Silent Automatic Heat the most important step to better living, and a good business investment, too. Phone your nearest dealer today for a free heating survey and installation estimate!



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93 **models of conversion burners, furnace-burner units and boiler-burner units from which to select the *right* model for your home. Gas models available for use with natural, mixed, manufactured or L.P. gas.**

Take the word of John De Belak, prominent heating and plumbing contractor, 800 West National Avenue, Milwaukee, Wisc. And Mr. De Belak continues: "I always recommend C-E HEATMASTER automatic water heaters to my customers because I know from experience that for long life, operating efficiency, and economical hot water service . . . there's nothing better than C-E HEATMASTER!"

Available in all models and sizes, both gas and electric

Electric—Approved and listed by Underwriters' Laboratories, Inc.

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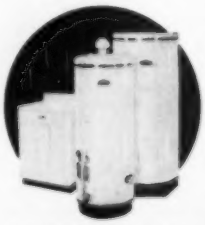

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Table-top care

There's no longer any need to hide your tables under a long cloth to make them look presentable. A little time is all that's necessary to make your table tops gleam with new beauty.

To clean furniture with a varnish finish, wash the wood with mild soap, wipe with a clean, damp cloth, and dry thoroughly with a dry cloth.

A washing-polishing combination of 1 tablespoon of hot water, 1 tablespoon of turpentine, and 3 tablespoons of boiled linseed oil may be substituted for the soap-and-water cleaning. This colors shallow scratches, and often is all that is necessary to remove white spots.

To hide shallow surface scratches, rub scratch with a walnut meat, or in the case of mahogany, use a small cloth dipped in iodine. Or, the scratch may be painted with oil stain the color of the original stain, then filled with auto wax.

To remove hairline cracks or shallow scratches, soften the finish so it runs together by flowing a small amount of turpentine over a varnished surface, or denatured alcohol on a shellacked surface. Let dry at least 48 hours, then smooth with rottenstone before cleaning and waxing.

To repair deep mars in the wood is a little more difficult, but well worth the time and effort. Rub the mar or dent with a 6/0 or 7/0 sandpaper to smooth and clean it. Fill shallow mars with repeated coats of varnish, varnish stain, or thin shellac, depending on which of these finishes was used originally.

Fill deep mars with wood plastic almost level with the surface. After the filler hardens, finish filling the mar with stick shellac, selected to match the finish. Heat a spatula or knife blade, melt off a little of the shellac with it, and press the soft shellac into the mar.

When the mar is filled, level patch with the heated spatula. Then trim the patch flush with the surface with a flat razor blade or a sharp chisel. When dry, sand the surface lightly.

To refinish the patch, pour a little varnish stain or clean varnish, depending on the finish you are matching, on a lintless cloth pad. On top of this, squirt ordinary lubricating oil, and rub the resulting "goo" into the patched area.

When the finished surface is completely dry, rub it down lightly along the grain with a felt pad dipped first in rubbing oil or water, then in a fine-powdered abrasive such as rottenstone.

To remove white spots from table tops, use a thin paste of powdered pumice and linseed oil. Gently rub the paste over the spot until the white disappears, then quickly wipe the surface dry with a clean, soft cloth, and rub with furniture polish or wax. Recent white spots may be removed simply by rubbing them with a cloth dipped in turpentine. **END**

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THERE ARE MORE FARM TRACTORS ON Firestone TIRES THAN ANY OTHER MAKE . . .

FIRESTONE established leadership in the farm tire field by introducing the first pneumatic tractor tire, and Firestone has held this leadership ever since. Farmers have always preferred Firestone tractor tires because of their advanced design and better all-around performance and pulling power.

Today, Firestone — and only Firestone — provides tractor tires in both open and traction center patented tread designs. You can choose either tread — the one that performs best in the soil conditions on your farm.

Your Firestone Dealer or Store will be glad to give you all the facts about both tires and show you why Firestone is the first choice of farmers everywhere.

WHEN YOU ORDER A NEW TRACTOR OR OTHER FARM EQUIPMENT, SPECIFY FIRESTONE TIRES

Firestone Put the Farm on Rubber

FIRESTONE TIRES ARE *FIRST* WITH FARMERS TODAY

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THE HOMEMAKER'S CORNER by Betty Woods

HOW TO GET MORE JUICE FROM LEMONS

Let lemons stand in hot water for five minutes before squeezing. You'll get more juice!

Easiest way to dust in corners

Use an O-Cedar Triangular Mop with the wedge-shaped tip that glides into corners with ease! Polishes your floors *fast*, because special *sweep-suction* action picks up more dust and *holds* it! Washable. Polish treated, or untreated for waxed floors.

Clean Venetian blinds in a jiffy

Once a week, wipe off slats with O-Cedar No-Rubbing Cream Polish. Dirt just vanishes! Cleans and polishes furniture—woodwork—porcelain—enamel.

See the man who sells

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"the greatest help in housekeeping!"

O-Cedar Corp'n
Chicago, Illinois

O-Cedar of Canada, Ltd.
Stratford, Ontario, Can.

Guaranteed by Good Housekeeping

WHAT WAS NEW IN FARMING

50 Years Ago

"Every person engaged in agricultural pursuits and animal husbandry should exert himself to make a success of his chosen business."

That advice, still good today, appeared in an issue of *Successful Farming* 50 years ago, during our first year of publication. Following are more interesting items and advertisements from early issues:

Cut green bone is an excellent feed to induce hens to lay in the winter. They need some food rich in protein for egg production.

Keep a close watch on the fall colts. See that they get shelter during rainy days in the fall and early winter. The mother will be benefited by a ration of bran and oats—which will also improve the colt.

When the lamps get to smoking (wrote a contributor), I boil the burner for half a day in strong sal-soda water. I use an old kettle, and as fast as the water boils down, I add more. When the burners are thoroughly cleaned, I rinse them in warm water, dry carefully, put in new wicks, and the lamps will burn clear and bright.

For carpets infested with moths or carpet bugs, try spreading a wet sheet on the carpet, then running a hot flatiron quickly over it. The steam will destroy both worms and eggs.

The growing of valuable forests on the barren sand hills of Nebraska will begin this spring when the Bureau of Forestry will seed about 100 acres of the Dismal River Forest Reserve near Halsey with redcedar and jack pine.

Incubators are fast supplanting the hen as a means of incubation, and whether one wishes to raise 100 or 1,000 chickens, it will pay to buy one.

When the butter fails to come after churning for a long time, it is a good plan to add some water to the cream, or a small quantity of salt.

Hominy muffins. To 2 cupfuls of hot boiled hominy, add ½ cup of corn meal, ½ cup of milk, 2 tablespoonfuls of melted butter, and the yolks of 2 eggs; beat well and add the beaten whites. Bake in muffin pans in a moderate oven 25 minutes.

Six thousand Berkshires were recorded in the office of the American Berkshire Association in 1902. Iowa stood second with 511; Wisconsin sixteenth with 124; Minnesota twenty-sixth with 40 registered Berkshires.

THIS
Avery Wagon
Is a Thoroughly Good One.

It's Material, Workmanship, Design and Finish are unequalled. It possesses the same long wear ability as all Avery Goods. Has Poplar Box with Quarter Sawed Bottom. Has a very strong gear. Is heavily ironed and Easy Running. It's all wagon, and if it don't burn up you'll always have a wagon. Write for free catalog W. Full line of Planters, Cultivators, Threshers, Engines, &c.

Avery Manufacturing Co.

Sheep are rightly named "the animals with the golden hoofs." They have aided many a farmer in paying off the mortgage on the "home place." Give sheep a chance and there is no better animal for ridding the farm of weeds.

Seed corn should be the best ears from strong, healthy, leafy stalks. Gather two or three times as much corn as you need for seed, and after shucking, select only those ears which are sound and true to type, well dented, with deep, wedge-shaped kernels and straight rows, and well filled out at the butts and tips.

Have your yearlings and 2-year-olds in prime shape when the time comes for turning them on the pasture in the spring. In the fall, finish them up to a prime state on corn. You thus have 2 or 3 hundredweight from cheap grass feeding, and with little labor cost.

Wheel covers illustrated standard on ROADMASTER, optional at extra cost on other Series.

Right from the start—it thrills you!

It isn't always the big things that tell you how downright good a car really is.

You'll note, for example, that this Buick has—not one—but *two* sets of figures on its speedometer. There's one for total mileage, which all cars give you. And there's one for *trip mileage,* found on all Buicks, but rare on other cars priced at less than $3,000.

Then there's the way a Buick starts. No groping for a starter button on the dash. You just push down your foot on the accelerator pedal—and one motion does the whole job.

That's something else found only on a Buick—and we can give you a good guess what the reason is —it's a costlier device.

And when you step on this combined starter-accelerator—boy, do things start to happen!

That great-powered Fireball 8 Engine purrs into action—and you're off with the steady swoop of a Diesel streamliner on the rails.

Now, you discover something else. Buick's Million Dollar Ride. Sure-footed on curves, level-gaited on the straightaway, steady and true on course—it's worth every dollar it cost in tools, engineering and special features — including the magic of Dynaflow Drive.*

What we're trying to tell you is this:

No matter how you size up a 1952 Buick—by its features, its fabrics, the way it performs, the way it rides — or the cost per mile of operation — you find that nothing is spared to make it the greatest buy it has been in years.

And that's doubly significant when you remember that Buick delivered prices start down at a figure that any new-car buyer can easily reach.

How about checking this for yourself, the next time you're in town?

Equipment, accessories, trim and models are subject to change without notice.
**Standard on ROADMASTER, optional at extra cost on other Series.*

BUICK *Division of* GENERAL MOTORS

Sure is true for '52

When better automobiles are built
BUICK
will build them

AND sometimes bring more than snow. They frequently cause damage and destruction which can be even more costly than fire.

Don't let yourself be caught without adequate insurance against loss from this peril.

Talk to the America Fore agent about it.

Rely on your local America Fore Farm Agent for sound insurance protection—and for full friendly help in settling claims! To locate him, call Western Union by number and ask for Operator 25.

The America Fore Insurance Group comprises the

CONTINENTAL · FIDELITY-PHENIX · NIAGARA
AMERICAN EAGLE · FIDELITY and CASUALTY
INSURANCE COMPANIES OF NEW YORK

LOOK FOR THIS SEAL ON YOUR POLICIES

America Fore
INSURANCE GROUP

Supplemental irrigation

Addition of irrigation water in critical growing periods throughout the states having fair annual rainfall is anything but a "dry" subject. Data is piling up for the favorable as well as the opposite side of the question: "Can the heavy capital investment in pumping machinery and equipment be justified?"

The annual report of the Soil Conservation Service was cautious in regard to supplemental irrigation in the humid areas. Costs were not justified for cotton, but corn yields were doubled for corn in Alabama. In Missouri, during seasons marked by ample rainfall, corn yields were stepped up 25 bushels per acre by 3.5 inches of water per acre where high rates of fertilizer were used. Soybean yields were not increased.

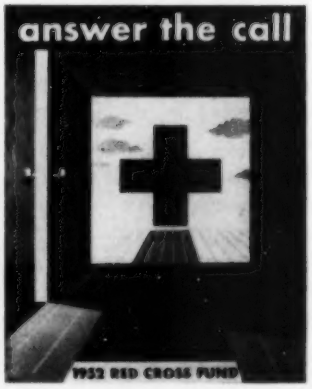
Successful irrigation projects in eastern South Dakota have about one-third of the acreage of cropland in grasses and legumes. Irrigated alfalfa-brome pasture in 1950 returned $77.04 per acre in beef cattle, against $63.17 for similar pasture which was not irrigated, figured on the same basis.

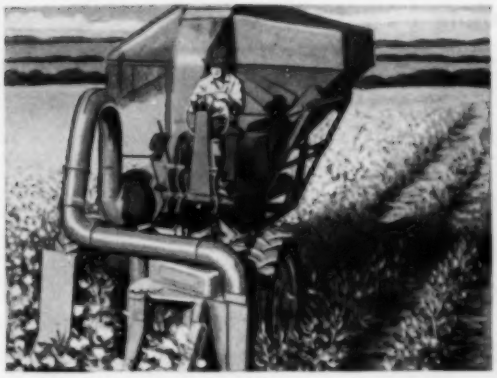
Other South Dakota tests resulted in increases of 100 percent in yields of barley, oats, and spring wheat on irrigated over nonirrigated land. Also, average yields of 10 commercially available corn hybrids of 82.8 bushels on irrigated land, against 41.5 bushels on dry acres.

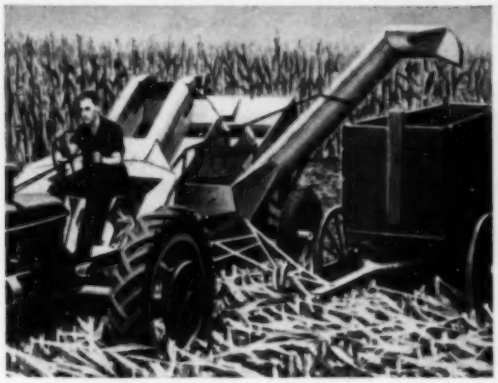
Indiana's dairymen know their state has had 23 out of 50 years of severe drouth during the growing period. Such promising returns on grasses and corn have been realized from overhead sprinkler equipment that a 5-year project has been set up by Purdue University.

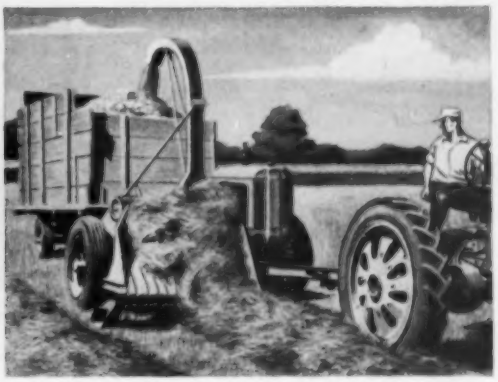
Irrigation is no "wonder drug," says one of Wisconsin's soil specialists, C. B. Tanner. He finds it tends to move nitrogen and potash downward from growing plant roots, and that plants with a high nitrogen requirement must have it supplied by fertilizer. On areas of high fertility, crops require no more water than on low-fertility land, yet they usually produce far greater tonnage.

[*Turn to page 26*









Each made to meet a special need

The harvesting equipment you buy was designed to meet specific needs.

It's the same way with Armco Special-Purpose Steels used in farm equipment. Each steel has been developed to do a special job—such as fighting rust, withstanding a combination of heat and corrosion, or holding paint longer.

One of these special steels is Armco ZINCGRIP-PAINTGRIP. It has a protective zinc "skin" that clings tightly to the base metal during forming or drawing—plus a mill-applied Bonderized finish that *takes* and *preserves* paint.

In combines, corn pickers, grain drills and other equipment, ZINCGRIP-PAINTGRIP provides *unbroken* rust protection and holds paint several times longer than untreated zinc-coated surfaces.

Other Armco Special-Purpose Steels include an aluminum-coated steel that resists heat damage in crop dryers, brooders and tobacco-curing stoves . . . a whole family of solid, rustless Armco Stainless Steels for hand sprayers, hog waterers and dairy equipment.

To make sure *you* get the benefits of these extra-quality steels, ask about the metals used in the farm implements and equipment you buy. And, remember, the Armco trademark stands for superior steels that will give you longer service at lower cost *because they're made for the job.*

ARMCO STEEL CORPORATION

MIDDLETOWN, OHIO, WITH PLANTS AND SALES OFFICES FROM COAST TO COAST
THE ARMCO INTERNATIONAL CORPORATION, WORLD-WIDE

ARMCO

MORE SCRAP FOR MORE STEEL More steel scrap is needed for top steel production. The new furnaces the steel industry is building cannot be operated at capacity with the present scrap supply. To help the nation – and yourself – sell your steel scrap now!

Keeps them eating . . . keeps them gaining . . . right through weaning!

Save more pigs by making your spring pigs *independent* of sow's milk flow. Sparx is so close to actual sow's milk that orphan pigs, pigs with insufficient milk from extra large litters or sows that dry up . . . all can be helped to live and make a profit. Sparx is evaporated buttermilk in a formula that makes a complete replacement for sow's milk.

Easy to Feed! Start Sparx as a drink whenever sow's milk is lacking (as early as one week if necessary). Always feed it from the fourth week when sow's milk normally begins to slack off. Then nourishment continues at peak flow level. Pigs scarcely miss mother's milk . . . weigh up to 50% more than the national average at weaning!

Keeps 'em gaining! Feed Sparx until the 12th week to replace sow's milk after weaning. Sparx helps pigs avoid set-backs from weaning, castration, vaccination, or other causes! Develops big uniform growthy shotes that average 75 lbs. or more in 90 days. Feed Sparx and help give your pigs the "head start" they need to catch the high early market.

Get a drum of Sparx from your feed dealer now to have some on hand whenever sow's milk is lacking. Or better, order a supply of barrels today and keep all your spring pigs right on eating . . . right on gaining . . . right through weaning.

SPARX *for* **BABY PIGS**

©1952

CONSOLIDATED PRODUCTS COMPANY, DANVILLE, ILLINOIS

Division Offices: Princeton, N. J. • Des Moines, Iowa • Sacramento, Calif.
Makers of Semi-Solid Buttermilk, Semi-Solid Emulsions and Koff-A

Irrigation

[*From page 24*]

Iowa's summer in 1951 was cool and moist, generally. However, reports covering several farms point to justification of necessary expense required to spread additional water on corn land.

Southern Illinois farmers are closely following a 5-year pasture-irrigation project started in the southern part of the state at Dixon Springs in 1948. Water is drawn from an ordinary farm pond by using a tractor for pumping power. A tentative summary of results after 2 years shows:

- Where equipment is available for determining available soil moisture, irrigation should be started when the soil moisture is 65 percent utilized.
- When rainfall is less than 2 inches in 2 weeks during the summer, additional moisture must be applied to maintain maximum growth under southern Illinois conditions.
- Both forage yields and animal gains have been significantly increased when irrigation is used.
- The use of supplementary water seems to make the limestone available more rapidly with a more rapid increase in the pH level.
- Higher forage yields and increased growth of legumes apparently reduced the pH level more rapidly as a result of heavier utilization of calcium.
- Irrigation helped to keep Ladino clover in the pasture mixtures.
- Applying nitrogen fertilizers to an irrigated field seeded with Ladino clover in the pasture mixture produced only a slight increase in the yields of dry matter.
- Nitrogen-fertilizer applications tended to reduce the amount of Ladino clover and to increase the amount of grass in stands on treated strips.
- Legumes were a more economical source of nitrogen than manufactured nitrogen fertilizers.
- Soil treatment was as important as irrigation in increasing yields, and a combination of the two gave maximum yields.
- For best yields where the phosphate levels are low, the use of additional phosphate is advisable.
- Irrigation may be profitable in years of normal rainfall where as few as 3 irrigations are required.
- The advice of engineers should be sought for both source of water and system of irrigation to be employed. It pays to get expert advice.
- Irrigation may take one of the biggest hazards out of determining the carrying capacity of pastures from year to year. **END**

SUCCESSFUL FARMING

"The tooth paste!"

OIL SCIENTIST, using laboratory model, shows how water flooding revives oil fields which have lost natural "push." By pumping water into oil-bearing sands, trapped oil is forced toward outlet wells which bring it to the surface, where it is separated from water. This technique, now used in 800 water flooding projects in the U. S., is producing millions of barrels of oil which once seemed beyond reach.

Water Flooding Puts New Life in Old Oil Wells

Remarkable Recovery Method Helps Boost U. S. Oil Supplies To Record High

An ingenious method of oil recovery, in which actual water transfusions are used to put new life into worn-out wells, will add extra millions of barrels to the nation's record oil supplies this year.

By pumping water deep underground into oil-bearing formations which have lost their natural pressure, oilmen now coax more oil out of the ground than nature alone would yield. This "water flooding" method is typical of the many special conservation devices developed by oil scientists of scores of companies in their efforts to squeeze every last barrel of oil from existing fields.

In their vigorous struggle to outproduce their rivals U.S. oil companies use the latest scientific developments to set new production records year after year. Equally important, they have constantly improved the oil products America uses. For instance, 2 gallons of the high quality gasoline you buy today do the work that 3 gallons did in 1925. Yet today's gasoline is priced about the same as 25 years ago—only taxes are higher.

In peace or war, you benefit from the competition among America's privately-managed oil companies with the finest oil products at the world's lowest prices.

Oil Industry Information Committee, AMERICAN PETROLEUM INSTITUTE, 50 West 50th Street, New York 20, N. Y.

(*Left*)
BENTON, ILL. is scene of typical water flooding success. Two years ago oil production here had slowed to a trickle. Today, thanks to water flooding, "grasshopper" pumps like this are approaching an 8,000 barrel-a-day production rate — over 10 times the rate before water flooding was started.

(*Right*)
MILLIONTH BARREL of oil recovered by Benton water flooding is celebrated by field crew. In projects like this, U. S. oil companies are constantly finding new ways to bring you high quality oil products at world's lowest prices.

Latest Lennox development

STOPS COLD BEFORE IT ENTERS YOUR HOME

Lennox Perimeter Heating, newest development of Lennox engineers, stops cold at its source—the outside walls and windows of your home. It combines the best features of warm-air and radiant heating. Small registers around the house perimeter spray warm air up over the cold surfaces where drafts start.

Lennox Perimeter Heating is adaptable to any size home with or without a basement. Slab-floor installations, as above, have revolutionary, new Lennox reverse-flow furnaces.

You can always depend on Lennox for the best.

in warm air heating

more families buy Lennox

than any other make

Ask about Convenient Payment Plan

So-o-o-o comfortable!

Like this baby, you can relax in comfort so perfect that you're unaware of your heating system. That's the kind of comfort Lennox *Aire-Flo* Heating provides . . . *another reason why More Families Buy Lennox!*

The perfectly balanced warmth; the gently circulating filtered air; quiet, automatic operation, and fuel-saving efficiency mean *perfect comfort* for you and your family.

For this kind of comfort, see your Certified Lennox Dealer, listed in your classified phone book. Or write Dept. SF-352, nearest Lennox office for FREE booklet: "How to Select Your Heating System."

THE LENNOX FURNACE COMPANY
World's Largest Manufacturers and Engineers of Warm Air Heating Systems

Marshalltown, Iowa • Syracuse, New York • Columbus, Ohio • Fort Worth, Texas • Pasadena, California • Salt Lake City, Utah • Decatur, Georgia

Write LENNOX, Dept. SF-352, Marshalltown, Iowa, for FREE DECAL of this 4-inch colorful picture of Lennie Lennox himself. Easy to apply to any smooth surface.

Lennox Furnaces carry the seals of nationally recognized testing laboratories.

There's a Lennox Heating System for your home and climate . . . 92 different models . . . for gas, oil, coal, LP-gas.

LENNOX *Aire-Flo® Heating*

All around the house®

Here are some tips to help save yourself some time, steps, and work

● I mark the favorite recipes in my cook books with red seals or stars. If the markers are sealed over the top edge of the page, a quick glance along the top of the book will reveal pages with favorite recipes.—*Mrs. L. F., Iowa.*

● **Sponge-rubber balls over the clothes hooks in my home are a real saver. They keep clothing from slipping off or pulling out of shape, and hats aren't so easily dented. I pierce the rubber ball with a sharp knife and force the ball over the hook. In**

the children's room I used different-colored balls to serve as markers for "who's who." I paint the balls to harmonize with the color scheme in the rooms or hallways where they are used.—*Mrs. H. S., Kansas.*

● When cutting buttons off a garment, I put them on a string and tie them together. Then when I want buttons that are alike, they are all ready in my sewing box. —*Mrs. H. M., Wisconsin.*

● **A useful shower gift for a bride-to-be is a set of tools for the kitchen. I include hammer, screwdriver, pliers, and a small monkey wrench painted to match the new bride's kitchen.—*Miss B. R., Nebraska.***

● When painting flowerpots, I put a rope through the hole in the bottom of the pot, make a knot larger than the hole, and tie the unknotted end of the rope to the clothesline. This way the entire pot, including the bottom edge, can be painted easily.—*Mrs. H. R., Minnesota.*

● **A helpful hint I have found is to use a plunger when the washing-machine hose has accumulated dirt and lint. I plunge it up and down a few times and the hose opens up.—*Mrs. W. S., Wisconsin.***

● When I'm out and discover face-powder marks on my dress collar, I brush the

area with the underside of the dress material. I find that this provides temporary aid until I can have the dress cleaned or do a better job with a clothes-brush.—*Mrs. E. I., Iowa.*

● **If windy days find you stretching to reach the clothes which keep blowing out of reach, try attaching a small clothes prop to the line. I screwed a hook into one of my props, hooked it over the line, and let it**

dangle alongside as I worked. Now a gentle pull is all I need to bring the line easily into reach.—*Mrs. A. M., Ohio.*

● To make old luggage look new again, I paint it with a coat of liquid plastic. I've used the liquid plastic on cardboard, fabric, and plastic cases.—*Mrs. E. K., Iowa.*

● **When patching sheets, I sew a little colored thread in the hem. This way I can recognize patched sheets without unfolding them. This is also the way I mark my sheets for guest rooms and various bed sizes.—*Mrs. O. J., South Dakota.***

● Not having kitchen space for a cabinet with a flour bin, I bought a metal clothes hamper, cut a wooden block and screwed a caster in each of the four corners, and secured the hamper to it. The hamper

holds a 25-pound bag of flour, the rolling pin, and flour sifter. The whole unit rolls under my worktable.—*Mrs. E. M., Ohio.*

● **I fastened a flat curtain rod about 4 inches from the floor of my closet and used this as a shoe rack. The height of the rod may be changed according to the size of the shoes.—*Mrs. C. C., Missouri.***

Successful Farming will pay $5 for each helpful suggestion published. We cannot return unused suggestions.—Editors

Wonderful discovery added to boiled starch overcomes "gluing action". Renews beauty of fabrics with exclusive Satiny-Smooth finish.

Knocks out Iron-drag, Stick and Scorch...ends "bunching and pulling" drudgery at your ironing board

Only **SATINA** Promises faster, easier "Speed-Ironing" for life!

- **Clothes Stay Cleaner; Look Newer; Smell Fresher**
- **Costs Less Than 2¢ a Starching**
- **Easy Directions with Package**

FREE OFFER

If you'd like to see how SATINA makes ironing faster and three times easier . . . mail coupon for a FREE trial package (enough for 4 big starchings). Send today!

SATINA, Dept. N, Box 829, New York 46, N. Y.

I am not yet a SATINA user. Please send me, postpaid, a FREE trial package.

NAME _____

STREET _____

CITY _____ STATE _____

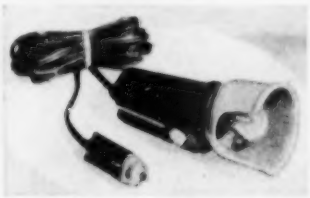
Offer expires June 30, 1952

What's new in homemaking

Plastic Susan set for serving appetizers, pickles, jams, desserts, or for use as centerpiece when filled with flowers or fruits. The eight little trays can be lifted easily off the holder for serving individual

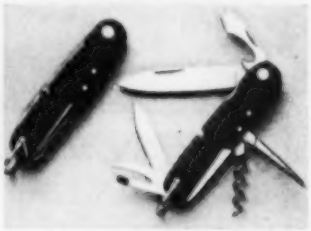
salads. They even have separate compartments for extra dressing! Set is 17 inches in diameter, comes in chartreuse-and-green combination. About $3.95 at department, hardware, and gift stores.

Magnalite—portable light for car owners—plugs into any car lighter, provides greater illumination than ordinary flashlight. Twelve-foot cord makes its use possible wherever needed. Permanently



magnetized metal base holds light in any position on any part of auto body. Crimson hood makes light visible as warning to approaching cars. $3.95, complete.—*The Mail-Mart, P. O. Box 145, Upper Darby, Pennsylvania.*

"The Sportsman" pocketknife with large spear blade, small pen blade, can opener, screwdriver, cap lifter, corkscrew, and awl. Made of hardened steel,

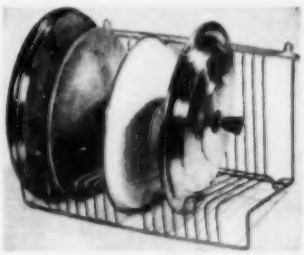


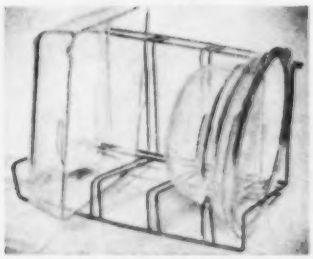
ground to razor-sharp cutting edges. Durable, maroon-colored fiber handles are attached with brass rivets and chain loop. Length, 3½ inches. $2.50, postpaid.—*Hoffritz Co., 49 E. 8th St., New York 16, New York.*

Plastic ivy spiral, filled with sphagnum moss, provides both support and moisture for ivy and other potted climbers. The latticed cylinder is 10 inches high, 2½ inches in diameter, and has holes in the

top for watering plant. Additional spirals can be attached to the first for greater height as plant grows. Comes in green, red, or bronze color. Price, $1 each, postpaid (includes moss filling).—*Parker Plastic Products, 401 67th St., Houston, Texas.*

Lid-Crib and Ovenware-Crib keep lids and utensils organized. Use on cabinet shelf, or hang on wall. Cribs are





plated metal, about 12x7x7 inches. Price, $1 *each*, plus 35 cents for postage and handling. (No C. O. D.'s, please.)—*Elgin Novelties, 529-S Commercial St., Provincetown, Massachusetts.*

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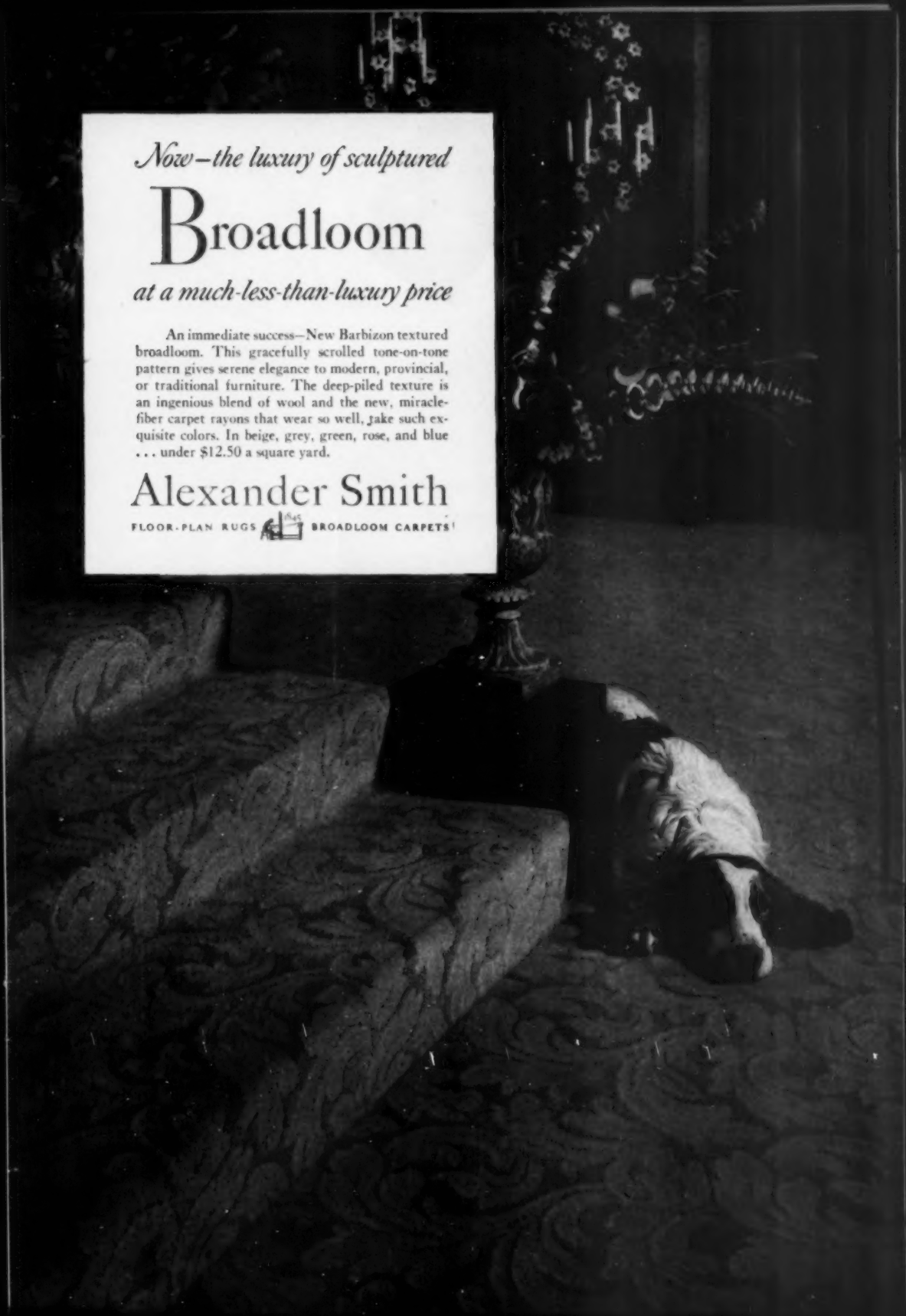


Now—the luxury of sculptured

Broadloom

at a much-less-than-luxury price

An immediate success—New Barbizon textured broadloom. This gracefully scrolled tone-on-tone pattern gives serene elegance to modern, provincial, or traditional furniture. The deep-piled texture is an ingenious blend of wool and the new, miracle-fiber carpet rayons that wear so well, take such exquisite colors. In beige, grey, green, rose, and blue . . . under $12.50 a square yard.

Alexander Smith

FLOOR-PLAN RUGS 1845 BROADLOOM CARPETS

Lenten Meal with Real Appeal...

...the Lightest Pancakes Ever!

Aunt Jemimas
-of course!
PANCAKES, BUCKWHEATS and WAFFLES

NOW "FLUFF-WHIPPED"! *This* Lent, treat your folks on the lightest pancakes ever!—luscious, mouth-meltin' Aunt Jemimas. You see, Aunt Jemima's famous recipe is now "Fluff-Whipped" to make pancakes even lighter than *your best homemade!* Keep several packages handy ... and serve fluffier Aunt Jemimas all through Lent.

Get the Big Economical Farm Size Packages!

Celebrate PANCAKE DAY
February 26

© Quaker Oats Co., 1952

Latest "know-how" in foods

Your market basket of new products and new research

Pork and beans—home-canned: You may have regarded pork and beans as difficult to can in your own kitchen. But so many homemakers have shown an interest in canning this old-time favorite that the United States Department of Agriculture has developed recipes for pork and beans with tomato sauce and with molasses sauce, as well as for baked beans with pork.

Directions are included in the revised edition of *Home Canning of Meat, Home and Garden Bulletin No. 6.* Request it from the Office of Information, United States Department of Agriculture, Washington 25, D. C.

Low-sodium canned meats for special diets: If someone in your family suffers from heart or kidney trouble, high blood pressure, or overweight, you'll welcome the low-sodium meats that are coming on the market. As salt contains about 40 percent sodium, these new meat products are packed *without* salt, and depend on saltless seasoning.

New on the frozen-food market: Watch for a complete line of frozen Chinese foods, including egg rolls, fried rice, wonton soup, and chop suey. And teen-agers, especially, will herald the arrival of frozen chili.

One out of four is overweight: Did you know that at least 25 percent of the people in the United States are overweight? And did you know that 95 percent of the time, overweight is caused by simple overeating? If you're one who tips the scales a little too far to the right, watch out.

Physicians report that both overweight men and women show a death rate about one and one-half times greater than do men and women of ideal weight. Overweight affects the heart, the circulatory system, and the kidneys. It can also be a serious handicap in surgery or in pregnancy. Don't wait until next week to cut down on excess food. Do it now. Remember—the longer the beltline, the shorter the life line.

Beet and cane sugar—chemically the same. Homemakers are still asking, "Is there any difference between beet and cane sugar for cooking and table use?"

"No, they're the same chemically," says Sally Stillman, a nutritionist at the University of Wisconsin. "They're alike in sweetening power, purity, color, and granulation. You can use either one for cooking, canning, preserving, and in any product calling for granulated sugar."

At maple-sugaring time folks head towards the sugar camp for "Sugar-on-snow"

For delicious Lenten meals–pancakes and waffles with Vermont Maid Syrup

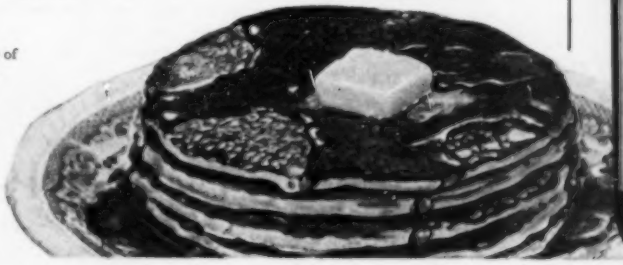
During Lent, especially, pancakes and waffles are a grand way to vary your menus. Serve them often as a delicious main dish—with plenty of Vermont Maid Syrup.

Skilled blenders select maple sugar that is unusually full-flavored; blend it with cane sugar. This gives you, at moderate cost, real maple sugar flavor —always the same, always delicious. At your grocer's in attractive glass jugs—24-oz. or 12-oz. size.

Penick & Ford, Ltd., Inc.
Burlington, Vermont

Made by the makers of
My-T-Fine Desserts
and Brer Rabbit
Molasses

©1952, P. & F., Ltd., Inc.



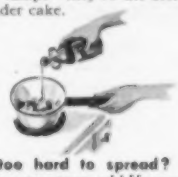
Pancake Day— FEB. 26TH

● Shrove Tuesday, the day before Lent begins, is also known as Pancake Day.

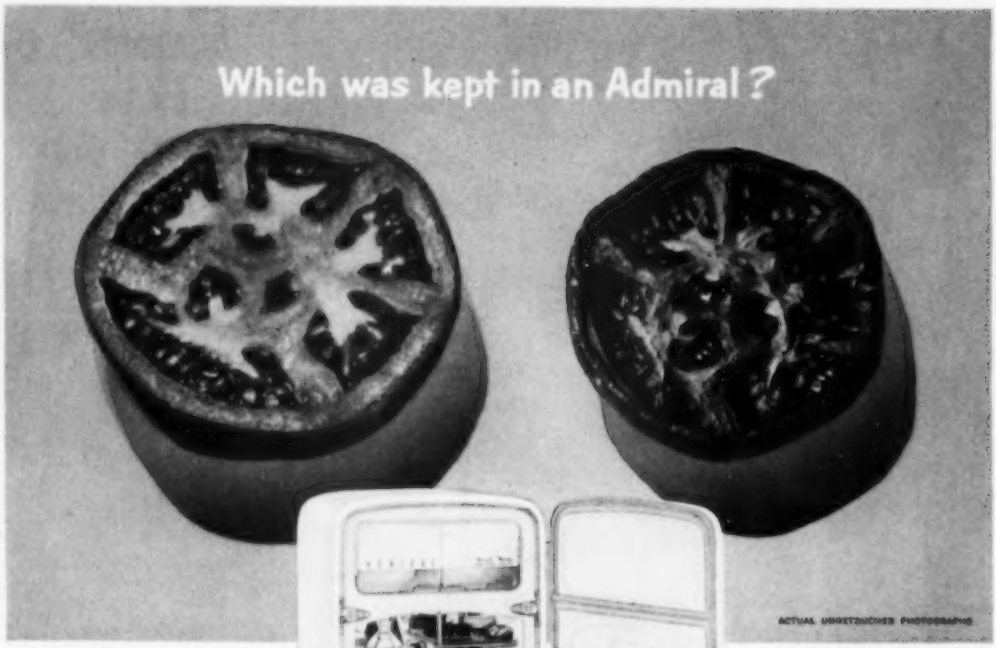
● Pancake races, games and pranks are just a few of the ways this day has been celebrated. But the main feature was always the eating of pancakes. Today pancakes and Vermont Maid Syrup are a year-round favorite as well as a delicious Lenten dish.

Table tips on pancakes

To get golden brown pancakes add 1 tablespoon Vermont Maid Syrup to your batter. Don't stir out the lumps—they're the secret of a tender cake.



Butter too hard to spread? Put it in a saucepan, add Vermont Maid Syrup; heat 'til butter melts. Pour on hot—it's delicious!



THIS TOMATO SLICE was left uncovered for 5 days in an Admiral Dual-Temp. Test shows that moist-cold kept it fresh, appetizing, flavorful.

THIS SLICE from the same tomato was left uncovered 5 days in an ordinary refrigerator. It is dried out, distasteful—worthless.

MODEL 1192—DUAL-TEMP—11 CU. FT.

Foods don't dry out in an Admiral Dual-Temp

Anything . . . yes, *anything!* . . . keeps in the Admiral Dual-Temp—and keeps better than you've ever known food to keep before! Cold meats, egg yolks, leftovers, fruits, vegetables, desserts . . . all stay fresh and flavorful for days on end without lids or wrappings—and without any mingling of odors or flavors.

Remarkable, too, is the huge freezer compartment with the coldest-cold of them all! You can quick-freeze at temperatures as low as 52° below freezing—store up to 72 pounds of frozen foods. For the one truly *different* No Defrosting refrigerator—for the finest in refrigeration at typical Admiral savings—see the new '52 Dual-Temps *now* at your Admiral dealer's.

Guaranteed by Good Housekeeping

ADMIRAL ELECTRIC RANGES—the only ranges that give you the accuracy of Flex-O-Heat controls, plus the automatic self-turning Rotary Roaster.

Free: Subscription to "Smart Living". See your Admiral dealer.

Television: "Lights Out" Mondays, 9 PM, EST, over NBC Network.

Admiral
DUAL-TEMP
NO DEFROSTING... EVER!
TELEVISION • APPLIANCES

What sort of man do you want for president?

This is the year the people of the United States pick The Most Important Man in the World—the president of the United States.

This is a year that will be mentioned in the history books of tomorrow. We are in serious times. More trouble is ahead, even for the greatest democracy in the world. The man who heads our government will be looked to for global guidance—when he speaks, the capitals of the world will listen. When he moves, even the Kremlin will react.

The president of the United States will have a tremendous influence on what sort of life you can lead the next few years. What he says and does will mean the difference between life and death itself to a good many of us.

Any man who is that important, surely, is worth knowing better. What's more, he's worth knowing *before* election. And this is election year.

By and large, farmers are more serious about their part in choosing the country's leaders than nearly any other group in America. Farmers are a *thinking* people. Farm votes *move toward whomever farmers feel to be the best man.* That's why farm votes are called pivotal. Even though farmers' numbers are no longer large enough to swing elections by sheer weight, they often effectively *decide* an election—as they did in the 1948 presidential race—by casting the ballots which tip the scales in one direction or the other.

As a part of its share in building and reinforcing this interest in good government, *Successful Farming* again this year will report the national political picture to you. More than that, this year the editors of *Successful Farming* invite you to share with them in covering this biggest story of the year.

As a citizen, you have many opportunities to know the candidates in your *local* elections. You are close to them. But with the *national* elections, you're in a less advantageous position. You never get the chance to ask the questions you want answered. This year, *Successful Farming* is going to supply that opportunity. Here's how:

Imagine both the Republican and Democratic candidates for president have been picked, and you have them sitting in your own living room. They are there to answer your questions.

Send us the one question you feel is most important. We'll pick the most significant and revealing, those which most nearly reflect the thoughts of all. Then, we'll take those questions directly to each candidate, and get his answers.

The same questions will be asked both the Republican and Democratic nominees. We'll bring you their replies in the October issue of *Successful Farming*.

It's important to know as much as possible about who is going to be The Most Important Man in the World. Here's your chance to find out.

How to submit questions

1. Write the *one most important question* you'd like to ask. Use 25 words or less.

2. In another 25 words or less, tell *why* this is your most important question.

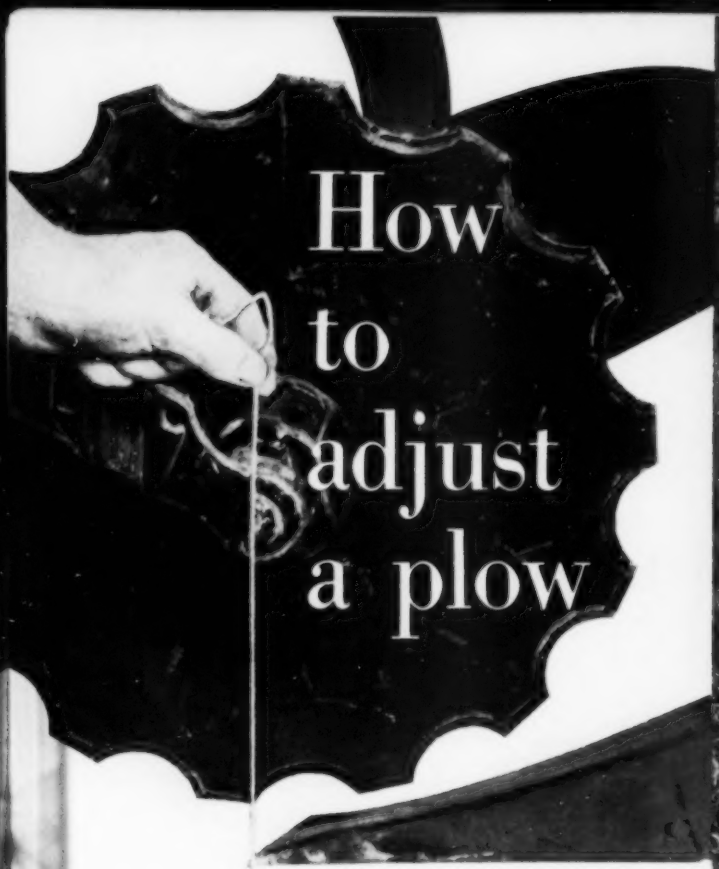
3. Sign your name and full address, and mail your question to: *Candidates' Questions, The Editors, Successful Farming, Des Moines 3, Iowa.*

4. For the best questions, actually used, *Successful Farming* will pay $10 each. For the next 10 best, $5 Honorable Mention awards will be made.

5. Winners will be chosen on the basis of both question and reason. All questions, used or unused, will become the property of *Successful Farming*. The decision of our judges must be final.

6. All questions must be postmarked no later than June 25, 1952. Only one question per person, please. Winners will be announced in the October *Successful Farming*, with their questions and the candidates' answers.

ELLIOTT



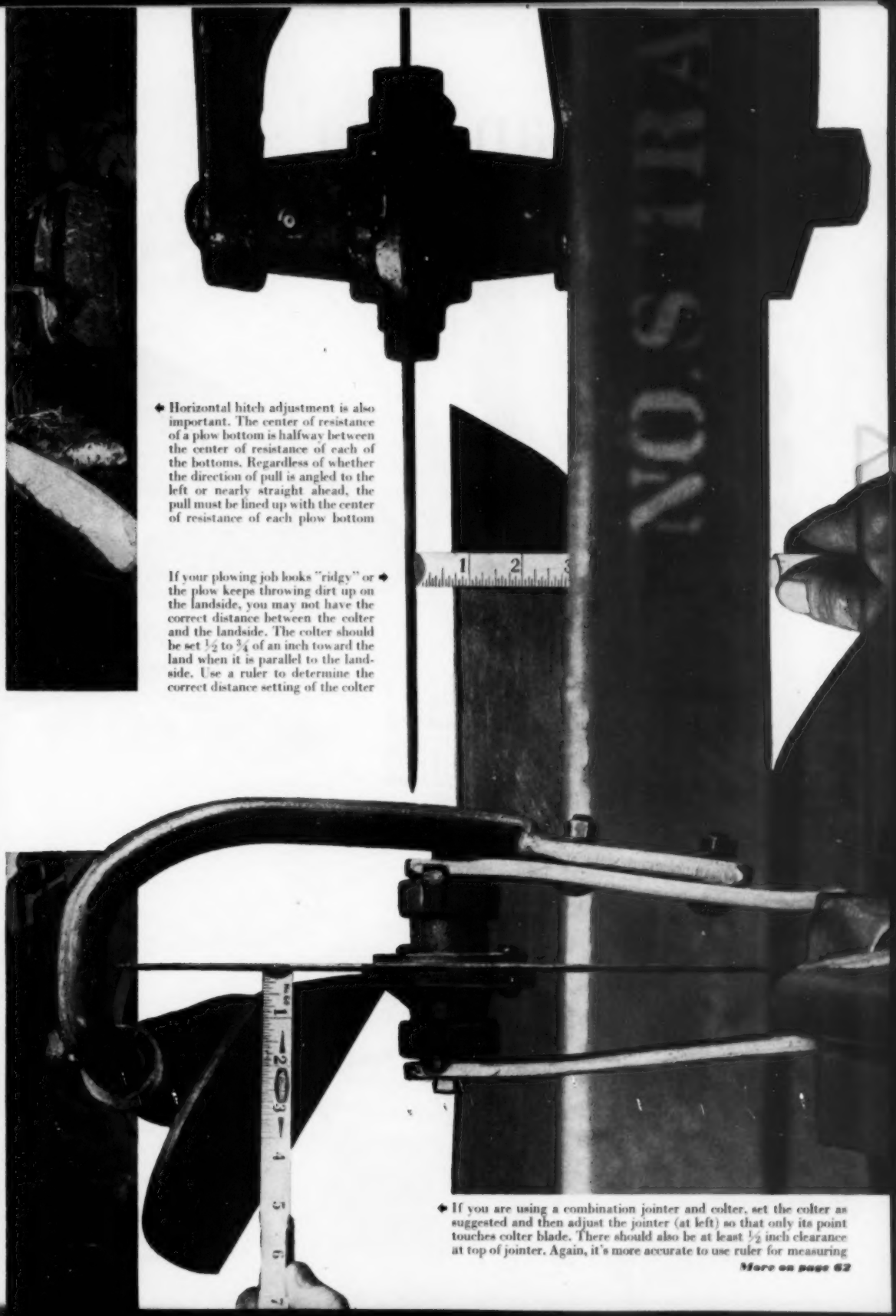
How to adjust a plow

By Richard Hufnagle

Photographs: Author

The right colter adjustment can mean the difference between a good and bad plowing job. To adjust the colter, move it forward or back until the colter hub is directly over the plowpoint. If you use a jointer, the point of the jointer should be set directly above or not more than 2 inches back of the point of the plow. The jointer should be set to cut about $1\frac{1}{2}$ to 2 inches deep and $\frac{1}{4}$ to $\frac{1}{2}$ inch toward the landside of the moldboard plow for best results

If you haven't checked your vertical hitch adjustment, your plow may not be doing the job as well as it should. To check the vertical hitch adjustment, set the tractor drawbar 15 to 17 inches above the ground when the tractor is on level ground. Then, with the plow in the ground and level, locate the point halfway between the points of the shares. Attach plow drawbar at point marked "X," which is on a line midway between the shares and tractor



◆ Horizontal hitch adjustment is also important. The center of resistance of a plow bottom is halfway between the center of resistance of each of the bottoms. Regardless of whether the direction of pull is angled to the left or nearly straight ahead, the pull must be lined up with the center of resistance of each plow bottom

If your plowing job looks "ridgy" or ◆ the plow keeps throwing dirt up on the landside, you may not have the correct distance between the colter and the landside. The colter should be set ½ to ¾ of an inch toward the land when it is parallel to the landside. Use a ruler to determine the correct distance setting of the colter

◆ If you are using a combination jointer and colter, set the colter as suggested and then adjust the jointer (at left) so that only its point touches colter blade. There should also be at least ½ inch clearance at top of jointer. Again, it's more accurate to use ruler for measuring

More on page 62

It's an idea!

Spring house cleaning is the time to brighten your rooms with any of these spanking-fresh ideas—all easy to do!

Dramatize a recessed window and give your desk better light by placing the desk at right angles to the window. Make a scalloped plywood frame and cover it in a fabric that will pick up the room's colors. Paint the inside of the bay a matching color and then hang sheer curtains inside

Give your boys a neat, masculine room by arranging beds against the walls in the corner. A large, square table provides a space for books, lamps, magazines, and also balances the grouping on wall above it. Assemble their trophies, ribbons, and pictures, frame all alike, and hang them to form a unit over the beds

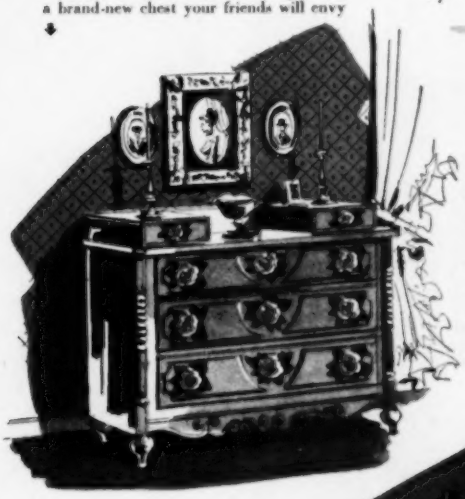
An old sofa bed placed against this simple storage divider will convert one corner of your kitchen into a cheerful, relaxing sitting room. By adding a sturdy denim slipcover and several brightly colored pillows, the sofa will be an inviting place for you and your family. A pull-up occasional chair, lamp, and books within reach complete a comfortable scene

By Kay Jones

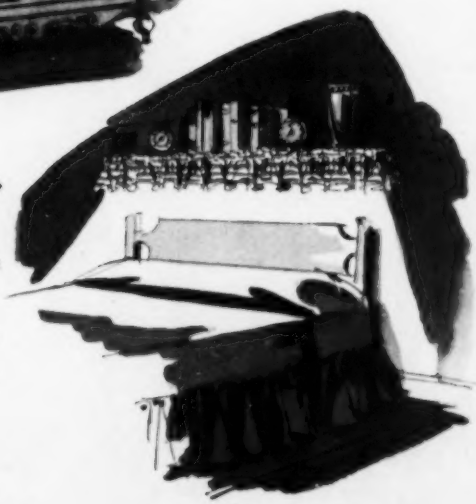
Drawings: Lester Kiss

Aren't you tired of our drab, gray winter days? You can turn the calendar ahead to spring by making a centerpiece for your kitchen table from your choice flowering plants. Gather them together and place them, pots and all, in a small market basket for gay, springlike sparkle and color!

Many old, deep-drawered Victorian chests are not being used today because they look drab. Bring yours out and see what adding clear plastic pulls and wallpaper roses behind them will do to glorify it. Paste on the cutouts, coat them with light, clear shellac, and then add new drawer pulls for a brand-new chest your friends will envy



An interesting group of pictures over your sofa will show off more effectively if it is arranged against a background which contrasts in color to the other three walls. Paint a section of the wall, just the width of your sofa, a color which will harmonize with all of your furnishings. This type of a treatment will unify the picture grouping



No room to use night tables? Screw a fluorescent bed lamp to the underside of a narrow hanging wall shelf, and conceal it by making a ruffle to match your curtains or bedspread. Books, your radio, and alarm clock are all within your reach when conveniently kept on the top of the shelf

Your fireplace should be as much a center of interest in the summer as in the winter. Hang a basket on the side of it filled with ivy, philodendron, wandering Jew, or other trailing vines which will add a spot of green and graceful lines to room. END

and Joan Scovel

HERE'S WHAT YOU SHOULD KNOW ABOUT substitutes

for sow's milk

By Dick Hanson

During the past two years, changes within the hog industry have been frequent and startling. Antibiotics, hybrid vigor, grass-feeding, and many other developments have kept hog raisers on the go. Now, a new idea promises to change completely our thinking on the way to raise pigs to weaning age.

Experiments by state colleges and commercial concerns indicate that sows can now be used as "*incubators*" *only*. Once the pigs arrive, the sow isn't needed. The pigs, at birth or a few days later, can go on substitute milk.

A survey by *Successful Farming* of a large number of commercial concerns reveals that several companies now have such a product available. Eight large companies report they are working on such a product, and several more companies are interested in beginning work on this type of product.

Just what is this substitute for sow's milk? Actually, it's as close to being sow's milk as researchers can make it. Dried skim milk or some other milk product usually serves as the base for the substitute milk. To it are added minerals, vitamins, and usually antibiotics. The resulting powder is mixed with water for feeding. One company's product, sold in a semiliquid state, is recommended for older pigs but can be used for newborn pigs, also.

As with any new method of feeding livestock, farmers have a good many questions they want answered. We have listed these questions and have answered them by calling on state-college research workers and commercial concerns making the substitute milk. Here are the questions and answers as we see them now:

What are the advantages of using substitute sow's milk?

At the present time there are five big advantages: 1) more pigs saved; 2) pigs make faster gains; 3) costs appear to be lower; 4) no strain on the sow after pigs are farrowed; 5) sows can be rebred or sold a few days after farrowing. If rebred, it's possible to get three litters in a little over a year. Recent work with hormone injections may make quick rebreeding much surer.

Can ordinary hog house be used for substitute-milk feeding?

Yes, but it has to be a fairly good one. You'll need good ventilation and some source of supplemental heat. If the pigs are taken from the sow at birth, they'll need a temperature of 80 to 85 degrees for a few days. Heat lamps alone, in some tests, haven't kept the pigs warm enough. However, one authority thinks that if the pigs are dried off at birth, heat lamps may do the job. Exactly how much heat the pigs need is still unknown.

What equipment do you need to feed substitute sow's milk?

The equipment needed depends upon your system of raising the young pigs. If you want to raise them in batteries, like those used for chicks, you'll have to buy the battery. One company planning to market substitute sow's milk may also put a pig battery on the market. These batteries are three or four tiers high. Each tier takes care of about 10 pigs. A metal trough along one side holds the substitute milk. The milk is fed into the trough from a bottle fastened to the side of the battery.

You don't have to use the battery idea. You can raise pigs on substitute milk in an ordinary farrowing pen. In this system, the only equipment you'll need is a water fountain similar to those used for poultry. The fountain holds the substitute milk and the pigs drink from it. Ordinary pig troughs can be used, but it's difficult to keep the pigs out of the milk.

Does substitute milk contain the same things as sow's milk?

The substitute milk is as good or better than sow's milk as far as feeding goes. But the substitute milk does not contain the antibodies against disease that most authorities think are present in sow's milk. The nature of these antibodies is still pretty much a mystery.

Some makers of the substitute milk feel that the antibiotics in their products will do about the same thing for the young pig that antibodies in the sow's milk do. That is, prevent disease until the pig is old enough to have built up his resistance.

When can you take the pigs away from the sow?

To get the fullest benefit from feeding substitute milk, the pigs are taken away from the sow at birth. Tests have been run in which pigs never got the chance to nurse but were put on substitute milk immediately. These pigs showed no ill effects—they made better gains than pigs left with the sow.

Most manufacturers of substitute sow's milk say to take the pigs away from the sow any time from birth to 10 days old. The basis of this thinking is that the pigs taken away from the sow when they are a few days old have had a chance to get the sow's colostrum milk. However, when the pigs are left with the sow up to 10 days after birth, the biggest advantage of feeding synthetic milk is lost.

U.S.D.A. figures show that about 33 percent of the pigs farrowed never live to weaning age. The major share of this 33-percent death loss before weaning occurs during the first 10 days after birth. If the full advantage of substitute-milk feeding is to be realized, the pigs will have to be taken from the sow at birth. As yet in the tests, preventing the newborn pigs from getting the sow's colostrum milk has not resulted in outbreaks of disease or poor-doing pigs. [*Turn to page 132*

Photographs: Pease

Substitute milk, in powder form, is mixed just before feeding. Manufacturer's directions should be followed to get the right proportion of powder and water. When the pigs are very young, water used to reconstitute powder should be warm. Stirring water dissolves powder quickly

Pigs can be fed from an ordinary poultry fountain. All the pigs in the pen should be able to drink at the same time. A small self-feeder should be placed in the pen when the pigs are 10 days old. Pigs will start eating a creep ration at that time, probably go on dry feed at 8 weeks

All bugs aren't bad

Mention bugs to some farmers and they get out the spray rig. But some of our best bug-killers are bugs. Here's the latest on how some insects save you time and money

By Dr. J. H. Lilly
Iowa State College

Insects have pestered man and damaged his crops since the dawn of history. And in spite of all our knowledge and efforts to control these pests, they still hold their own.

But all insects aren't harmful. And it's only fair to give insects credit where they have it coming. Of the 625,000 different kinds that have been described, only a fraction are really harmful to man.

A wide variety of insects are decidedly beneficial to us. Two of them, the silkworm and the honeybee, have been more or less domesticated, and their products are of commercial value. Bees and various other insects insure proper pollination of a long list of important crops. Many insects serve as food for birds, fish, and other animal life. Even some plants have become specialized to use insects as food! Scavenger insects play an important role in breaking down plant and animal matter and making it available for plant food.

Still other insects—many of them, in fact—are highly beneficial to us because of their role in killing off harmful insects. These are the predators and parasites which feed on other insects. Predators are the lions and tigers of the insect world. They kill their prey outright and require many victims to complete their own growth.

Parasites usually complete their growth either upon or within a single victim, and eventually destroy it. A few species are known to be intermediate between predators and parasites as defined here. However, they need not alter our understanding of the two main groups.

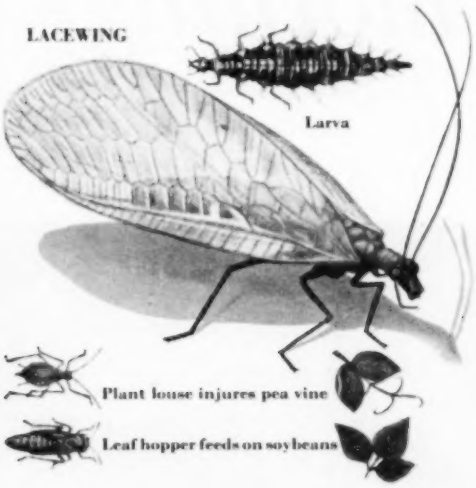
The natural-color drawings on these pages show five insect predators and one parasite, the Lydella fly. They bring out another important point regarding insect predators which adds greatly to their effectiveness: In many cases, both the young and the adults have similar feeding habits. Insect parasites which attack other insects are important mainly in their immature stages.

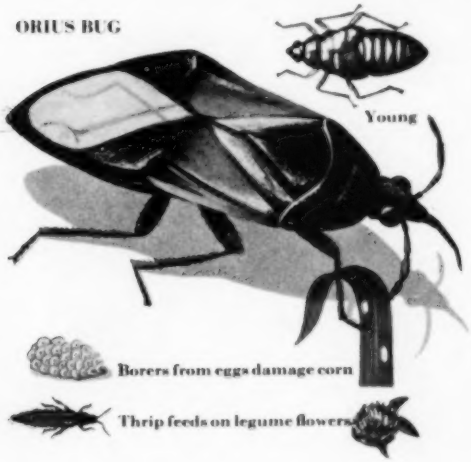
Ground beetles and their young are typical predators. They belong to one of our most common and important beetle families. The adults are active and aggressive. They feed on a wide variety of harmful insects—mostly in or on the soil. The large green beetle we've shown in the drawing is called the "searcher" because it often climbs trees to feed on caterpillars. Most of the ground beetles are smaller and wear much more conservative colors than this one. They stay near the ground, and their young are usually found beneath the soil surface.

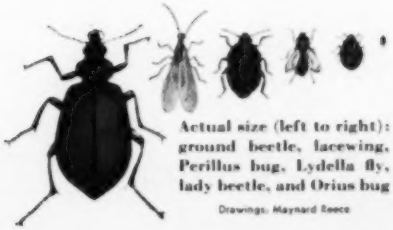
Lady beetles are probably known and liked by more people than any other family of beetles. With the exception of the Mexican bean beetle and two others, all members of this family are useful predators. Thus their designation as "lady" beetles is a reflection on their beautiful coloration rather than their choice of food or their table manners!

The lady beetles' preferred food consists of plant lice or aphids (like the green bug) and insect eggs, although small caterpillars of various kinds are common in their diet. Their young are anything but beautiful, yet they have even better appetites [*Turn to page 142*

Shown on this page are five helpful insects and the destructive insects they control. The five large drawings are of beneficial insects. Directly above them are shown their young—called larvae or pupae. Below each large drawing of a beneficial insect are a few of the most harmful insects it destroys, and typical examples of crops damaged by these harmful insects if not controlled. Actual sizes of helpful insects are at the lower left of this page.

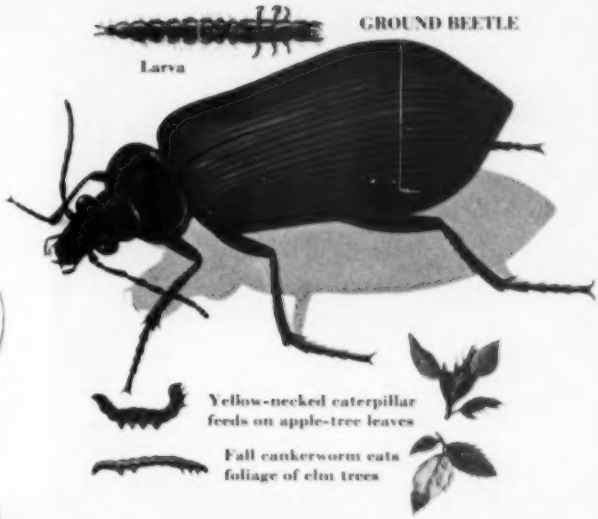


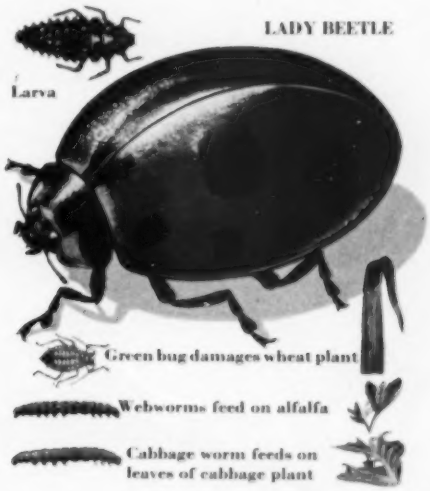


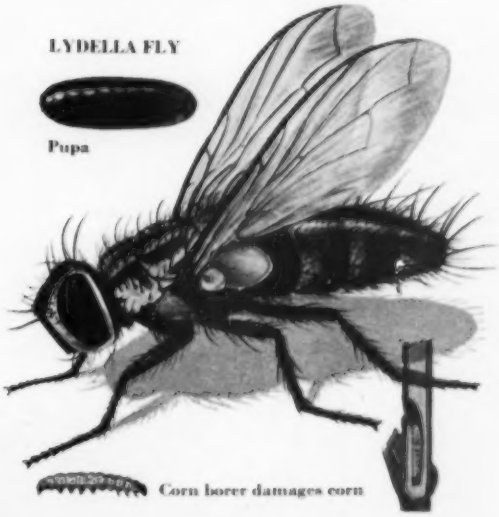


Actual size (left to right): ground beetle, lacewing, Perillus bug, Lydella fly, lady beetle, and Orius bug

Drawings: Maynard Reece

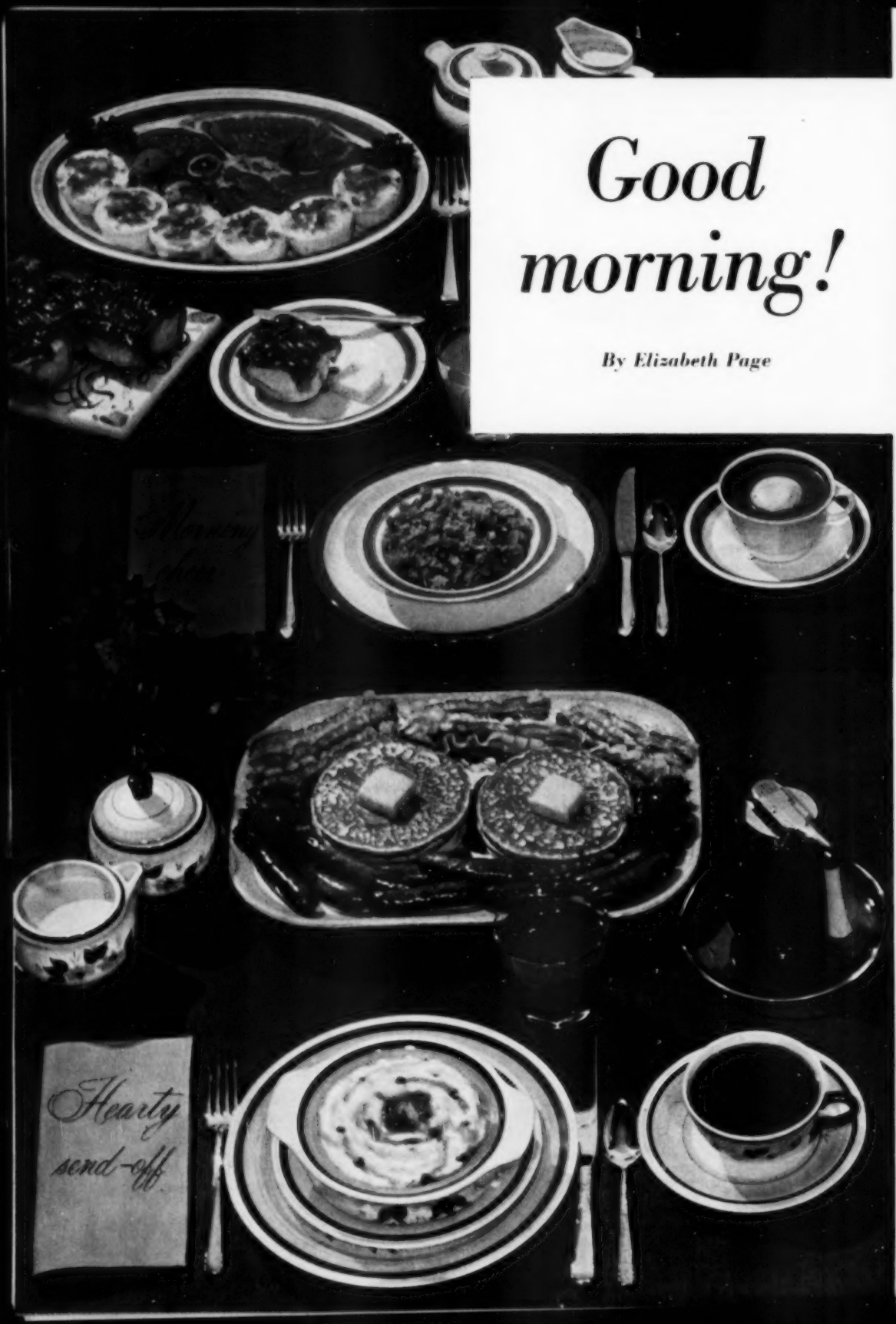






Good morning!

By Elizabeth Page



Or is it? If you're a breakfast grumbler, the kind that can't say, "Good morning," without feeling like a hypocrite—if you feel glum all day long—look to your breakfast. A hearty, nourishing breakfast can make a world of difference in how you feel in the morning *and all through the day!*

But perhaps you feel you've been oversold on the "good-breakfast" idea. Maybe it seems like a new slant on the patent-medicine sales talk—a cure-all for all your ailments. If you insist breakfast doesn't affect the way you feel, try this little experiment: Eat a good breakfast for two weeks. After you do, it's a safe bet you'll have more pep and feel [*Turn to page 164*

Photographs: Allen Snook

Window corner is inviting ↑ Color for cheerful living ↓ Sparkling-bright fireplace ↑

Photographs: Suter, Heinrich Blessing

COVER STORY

Their home is one of the family

Window corner is inviting with its colorful chair and draperies. A lamp made of globe repeats dark picture frames, forming a decorative unit with TV cabinet. Apron-length curtains are suitable for small room

Sparkling-bright fireplace combines wall color, natural tone repeated in rope which frames aerial view of Berry farm. Storage cabinets and shelves are pine, fill wall space. Flowers, fruit add color to setting

Color for cheerful living forms a good background for warm wood tones of furniture and accessories. Old kerosene lantern makes interesting lamp with addition of paint, shade. Curtains repeat room colors

When you ask a woman about her special interests in life, her hobbies, and her favorite pastimes, you expect a variety of answers. Among them usually are crocheting, knitting, reading, and creative crafts. Ask Mrs. J. W. Berry her hobby and you'll get an unusual—and intriguing—reply. She's apt to say, "Oh, my house is my hobby!" And she means it.

Throughout the Berry home you'll find endless clever, unusual decorating ideas, interesting pictures, and one-of-a-kind lamps. For Mrs. Berry has found her home provides the perfect outlet for her creative energies and artistic talents.

In the master bedroom, for example, the ornate shelves of an old Victorian hall stand are hung, upside down, above the bed and dresser as display shelves. Throughout the house, clever lamps are much in evidence, and these are all the work of Mrs. Berry.

Hand-painted Pennsylvania Dutch designs decorate the white and brick-red kitchen, where a long pine picnic table and benches are used for dining. Even the back porch has its distinctive decorating touches, where pottery plates and plants accent a bright, chintz-covered card table and chairs.

Yes, a visit to the "Berry Patch," as they call their 493-acre farm near Potomac, Illinois, is a lesson in decorating skills, as well as a look at one woman's hobby.

Pennsylvania Dutch designs were used to liven up an old coffeepot. Wired and equipped with a matching shade and plants, it is a clever conversation piece that gains interest under plate grouping on the wall

Ordinary baking pans in this kitchen have been converted to provide food for the imagination rather than the body. Pine cones and appropriate mottoes in frames make them unusual wall hangings. END

Beef enough for

Here he is—at the start and finish of the pasture season—the type steer we need

Each year, in America, 2,000,000 more people sit down to the dinner table. They all want beef. How can we supply enough—and at a price everybody can afford? Here is a profit-slanted system proved by a foremost authority in the farm-management field.

What's the cheapest, most productive way to produce beef—lots of it? Enough to meet the ever-growing demand of beef-hungry consumers—and at a price both you and the consumer will like? Where will this beef come from? The feedlot? Most of our feedlot beef producers already are loaded to capacity. Well, then, can this needed beef come from grass—*grass alone?*

As the result of a test I ran on my own farm in Missouri, I'm convinced that *grass will be the answer to the problem of beef enough for everybody.* Grass is the cheapest way to put meat on grade steers.

This all-grass test started on September 26, 1950, when I purchased 37 steers. The average purchase weight of these steers was 778 pounds, with a home weight of 755 pounds.

(The 1950-51 feeding test was similar to the test we ran the previous year. Results of this test were presented in the May, 1951, issue of *Successful Farming.*)

Our primary objective in the 1950-51 all-grass-feeding test was to carry the steers at the *lowest possible cost*—even

everybody!

By D. Howard Doane
Doane Agricultural Service, Inc.

for cheap, mass-produced beef. Grass alone added 380 pounds in 161 days

Photographs: Garrison, Pease

though they *lost weight* over the winter. We were prepared to let weight loss go the limit—up to the point where the steers might be permanently harmed.

Our secondary objectives in this test were to study individual steers, and the summer slump. We wanted to find the *best type of steer for all-grass feeding*. And we wanted to find out, if possible, the cause of *summer slump* in weight gains.

The cattle were turned on improved and native pasture immediately after purchase. By inventory time, the last of December, they had gained just 100 pounds, weighing 878 pounds.

The winter was a little more severe than average. We had more than the usual number of days when snow and ice covered the ground. And the pasture on which the cattle ran during the winter had been heavily grazed through the summer and late fall, so the winter grazing was below par.

These conditions increased the difficulty of making a fair test of extremely low cattle-wintering costs. We were able to hold costs down, but we took a heavy shrink.

The first hay was fed in November and the last in March. Quality of hay was only fair. The plan was to feed hay only when the grass was so completely covered with snow or ice that there would be nothing for the cattle to graze. Average amount of hay fed per steer was 756 pounds. At $18 a ton, the hay cost us $6.80 per steer.

This is the total value of all harvested feed fed from September 26, 1950, to September 22, 1951. In addition, the steers had mineralized salt and some ground oats *one day* before

Turn to the next page to see other steers included in this test →

Beef enough for everybody

[*From preceding page*]

marketing. Of course, there were other costs—for veterinarians, medicine, labor, and loss. The total of these items for the 37 steers was $440.13.

The important point is that *the cattle were wintered on 756 pounds of hay apiece*, plus a rather scanty bluegrass pasture. Our best estimate of winter weight loss placed it at more than 100 pounds per steer. But even with this loss, they bounced back. Home weight at the time of sale in September was 1,122 pounds. This made an average grass gain for the pasture season of *about 340 pounds*. The margin between buying price—26 cents—and selling price—32 cents—was 6 cents.

Did these steers gain back their 100-pound winter-weight loss during the summer? In my opinion, they did. In addition, they made almost a normal summer gain on about *an acre of good pasture per head*. Generally, my 2-year-old steers finish out for shipment the first half of October at 1,125 to 1,150 pounds. The herd in this test finished on September 22 at 1,122 pounds.

These steers did not carry a high finish, but they went to the killers at 32 cents, with one exception. Cattle on the same market *with 10 bushels of corn in them* brought 33 to 35 cents.

How can you put this system into practice on your farm? It's easy. First, you must have good pastures. Second, you have to know the type of steer that will convert grass into meat.

Let's look at some of the individual steers in this test so you'll get a better idea of what we mean by the "right" steer for grass. All the steers in the test were numbered. We'll use these numbers to describe these steers. The numbers appear under the pictures of the steers.

Steer No. 7 made the most summer or grass gain. From April 14 to September 22—161 days—he gained 380 pounds.

When started on this year's test on April 14, 1951, this steer weighed 840 pounds. During May and June, No. 7's gain was about average, but he spurted ahead in July. Then he fell to the bottom in August when his average daily loss was about $\frac{1}{3}$ of a pound.

From that low point in August, No. 7 zoomed to the top of the lot, *making 170 pounds of gain in 50 days* between August 4 and September 22. This [*Turn to page 174*

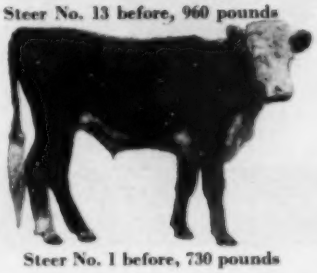
HIGH

Steer No. 12 before, 800 pounds

Steer No. 14 before, 750 pounds

MEDIUM

Steer No. 13 before, 960 pounds



Steer No. 1 before, 730 pounds

LOW

Steer No. 24 before, 760 pounds

Steer No. 20 before, 840 pounds

May 19—come see for yourself

D. Howard Doane will personally show you his radically different system of producing beef—and explain it in detail—at an open house Monday, May 19. (In May, field conditions will permit you to see the steers on pasture.) Sponsored by Mr. Doane and the editors of *Successful Farming*, the open house will get under way at 12:30 at the Doane farm. You'll see a beef-feeding test identical to the one described in this article, and Mr. Doane will be on hand to explain it all to you. The Doane Grassland Farm is located 27 miles east of Columbia, Missouri, on U. S. Highway 40. It would be helpful to us—but not absolutely necessary—if you would send a card to Mr. D. Howard Doane, Grassland Farm, McCredie, Missouri, indicating the number in your party planning to attend the open house. We'll see you May 19!

Steer No. 12 after, 1,180 pounds

Steer No. 4 before, 730 pounds

Steer No. 4 after, 1,100 pounds

Steer No. 14 after, 1,120 pounds

Steer No. 17 before, 780 pounds

Steer No. 17 after, 1,150 pounds

Steer No. 13 after, 1,300 pounds

Steer No. 3 before, 790 pounds

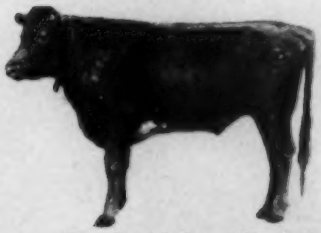
Steer No. 3 after, 1,110 pounds

Steer No. 1 after, 1,080 pounds

Steer No. 15 before, 790 pounds

Steer No. 15 after, 1,140 pounds

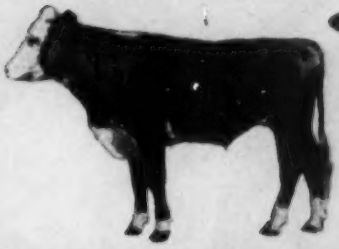
Steer No. 24 after, 970 pounds



Steer No. 6 before, 840 pounds

Steer No. 6 after, 1,130 pounds

Steer No. 20 after, 1,130 pounds



Steer No. 8 before, 910 pounds

Steer No. 8 after, 1,220 pounds

Keep your carpet looking bright

Two successful and economical ways to restore good looks to that dull carpet surface—and some helpful tips for quick removal of common stains from rugs

By Maurine Harris

Photographs: Pease

If you've "put your foot down" and decided to do something to make your carpet or rug look better, then these suggestions are for you. It's almost certain that most of the characteristics you take for wear and fading of your rug are, in reality, just results of accumulated dust and grime. Dirt is one of the *main* causes of wear, according to most authorities. So, with determination—and information—you may be able to restore and keep a more attractive rug surface, and prolong the life of your rug as well.

How to start. First, give the rug a thorough going over with your vacuum cleaner. If possible, roll up the rug and clean the floor underneath it. Then turn the rug over and clean the back, too. Next, if stains bear evidence of mishaps, try to remove them before undertaking a surface-rejuvenation job. Common stains often can be removed completely if they are treated *properly* and *promptly*. On page 151 are some practical home methods for removing stains which often are bugaboos. If in doubt—always call a professional rug cleaner. *Wrong* treatment may "set" stains permanently.

How to use rug shampoo. Shampoo or foam-type rug cleaner may be used to revive most types of wool carpets (but not for twist or frieze types). If you buy a commercial preparation for this purpose, ask for the synthetic-detergent type. These leave a minimum of alkaline residue which might damage rug fibers and colors.

You can make a very good cleaning foam yourself simply by whipping up a good suds of synthetic detergent. Choose a well-known brand, one of the granulated types popularly used for laundering. (Read the labels to find one which contains no alkalies.) Add 1 cup of the detergent to ½ gallon of barely lukewarm water, and develop a thick suds by repeatedly squeezing your sponge in the solution. Use a big container which leaves plenty of room for the suds to build up. If you have any doubts about the colors or fibers in your rug, *try a small, inconspicuous area of the rug first, to test the results.*

1. A natural sea sponge, cellulose sponge, or a vegetable brush is suitable for working the foam into the carpet surface. Use both a rotary and a back-and-forth motion and work on only about 1 square foot at a time.

2. Wring out a sponge or sponge mop *as dry as possible* in clean, lukewarm water, and use it to wipe up all the foam. If foam is very soiled, repeat the shampooing and wiping up. If any excess moisture remains, wipe the surface of the rug with an old turkish towel.

3. Finally, take a stiff, dry brush and go over the cleaned area with long strokes, first against the nap, then with the nap, to bring up the pile tufts.

Using the three steps over again, give the same treatment to another square foot or so of carpet, overlapping the edge of that previously cleaned. Prepare fresh suds whenever those you are using become soiled. Just dip the sponge into the suds each time, *not* into the water beneath. And, *by all means*, avoid getting the carpet too wet!

Rug shampooing by machine. An electric machine for rug shampooing may be rented in most towns. Operated somewhat like a vacuum cleaner, this machine has a large, rotary brush which makes possible the cleaning of large carpets with less bending and stooping on your part. If a detergent solution is furnished by the rental agency, for use with the machine, it should be used according to the directions. A special vacuum cleaner which picks up the suds sometimes is available along with the shampoo machine.

When to shampoo rugs. Shampoo your rugs any time of year, *except* during rainy or humid weather. Fast-drying conditions are essential, for lingering moisture is damaging to carpet fibers. In winter, keep the house well heated—in summer, keep it well ventilated—until the rug is thoroughly dry. An electric [*Turn to page 150*

These three steps in rug shampooing go faster if your family pitches in

1 Using a sponge or vegetable brush, briskly scrub a small area of carpet at one time with a rich suds of nonalkaline detergent or special rug-cleaning solution. Use both a rotary and a back-and-forth action to work in the foam. One caution: Avoid getting carpet too wet!

2 Wipe up the soiled suds immediately with a sponge or self-wringing sponge mop dipped in clean, lukewarm water, then wrung out as dry as possible. Change the water frequently for best cleaning results. If any excess moisture remains, pat and wipe over the surface of the rug with a clean turkish towel

3 Liven up the pile of the rug after shampooing by firm use of a stiff-bristled brush. With long, continuous strokes, go over the cleaned area, brushing first against the nap—then finish by smoothing *with* the nap. Use vacuum cleaner again as soon as the rug is dry

KEYS TO more corn NO. 3 OF A SERIES

Make corn your nurse crop!

Big news is the possibility of gaining a year in our rotations by skipping the traditional small-grain nurse crop. Wide-row corn may be the answer

By Richard Crabb

Wide corn rows may be the answer to a problem which has long stymied farmers and research men—how to establish successfully a legume, grass, or small grain in corn.

Competition for moisture is lessened, a better seedbed can be prepared, weed control is possible, and the time and machinery problems can be licked in this new approach to cover crops.

"I'd be interested in seeding a cover crop in my corn if I could get stands like that," was the way one Illinois farmer reacted when he saw the catch of legumes in the 70-inch rows of corn in an Illinois test plot.

We may at last have a practical means of covering up corn ground during the 6 months it is idle and exposed to freezing and thawing, hard rains, and snow-water runoff.

There are other advantages—even more interesting—which can contribute directly to income:

1 Cover crops—if legumes—catch and deposit in your soil the most vital of all plant foods, nitrogen. Under favorable circumstances, a cover crop in corn can, between October and May, take out of the air and deposit in your soil as much as half to three-fourths of the extra nitrogen needed to produce a good corn crop!

2 A cover crop on corn ground—plowed down the following spring—provides spongelike organic material. Well known are the values of green manure in increasing the water-holding capacity of the soil. This in turn helps tide the next crop over a summer dry spell and improves soil tilth.

3 For livestock farmers there is a good chance for extra pasture, thereby keeping the herd away from the haymow or silo a few days longer in the fall or stretching slim supplies of hay or silage in the spring. Corn left behind the picker is far from a balanced ration but no one wants to waste it. With legume roughage at hand, cattle will tend to balance their ration—making for better use of the corn.

4 The grass or legume seeding in corn can be used to develop a full-scale pasture crop the next year. If necessary, it might even be used for hay. By using corn instead of low-profit oats as a nurse crop, there is a saving not only of money *but of a whole year in the rotation*. That's because the grass or legume crop should be well established the next spring—ready to do a full season's work.

You must remember, however, that you can't have all of these at the same time. If the cover crop is grazed too much in the fall, the soil-holding capacity of the cover crop may be lessened. If extensive grazing is done in the spring, the nitrogen in the green-manure plow-down will be less.

In the past there have been several methods of planting cover crops in corn. In the north-central and northern Cornbelt areas (southern Minnesota, Wisconsin, and Michigan, or northern Iowa, Illinois, Indiana, and Ohio) the cover crop has been seeded immediately after the first cultivation and has given good results 3 or 4 years out of 5. Machinery has been a problem. Special seeding equipment, mounted on cultivators or high-wheel wagons with an endgate seeder, has been the most popular.

Farther south—in the central and southern areas of the Cornbelt—higher temperatures make it hazardous to seed a cover crop at the time of the last cultivation. There cover-crop seeding must be delayed until at least August 15 when hot weather has begun to taper off and summer rains become more effective. By this time the corn is full height. Here it has been necessary either to seed from high-clearance machines or with a one-row, horse-drawn seeder—both impractical.

Cover crops in corn have had such strict limitations that they have not earned wide use. No system has provided the cover crop with a good [*Turn to page 88*

Ladino clover, seeded in corn, looked like this in October, 1951, at Research Acres, McLean County, Illinois. The corn yielded over 100 bushels per acre despite 70 inches separating the rows. Rate of planting was 12,000 stalks per acre. On other tests, 40-inch rows delivered similar yields. The interplanted crop—whether legume, grass, or small grain—did not affect corn yields, and the growth of cover crop was little different in the 60- or 80-inch-wide rows

Photograph: Bill Wilson

70 inches between rows gives seeding a better start

Thick planting makes up for fewer rows

Yields can be high where rows are wide

How do you like your CORN BREAD?

...Good old-fashioned squares?

...*New* Jumbo sandwiches?

Here's how to make the sandwiches: Split squares of corn bread and place on broiler tray. Toast lightly; top each toasted square with a slice of tomato, a slice of American cheese and 2 half strips of bacon. Broil 4 inches from source of heat about 3 minutes or until bacon is cooked. Serve immediately. *See Quaker package for corn bread recipe.*

Served plain *or* fancy, corn bread makes a wonderful change of pace for day-in, day-out cooking. Easy to make. Costs only a few cents. The men folks love it.

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Tips for the cook

Ideas that add sparkle to meals and make cooking easier, quicker

● Here's how to make a layered fruit-gelatine salad without a trace of bother: Dissolve the flavored gelatine in the required amount of liquid and pour into

mold. Then add heavy fruit—such as pears and peaches—which will sink to form a bottom layer. Now add banana slices and diced marshmallows, and these will float to form a top layer. Chill until firm.

● Give plain grilled-cheese sandwiches a flavor lift by spreading bread with commercially prepared or homemade pickle relish before adding the cheese. Grill as usual. The relish adds heartiness as well as extra flavor.

● Make a wonderfully rich dessert by spreading soft ginger cookies or thin chocolate wafers with whipped cream to which has been added crushed peppermint candy. Stack cookies 4 deep. Top with whipped cream and a red cherry. Chill before serving.

● Here's a tasty chicken salad. Combine 3 cups cooked cubed chicken, 1½ cups diced celery, 1 teaspoon salt, and mayonnaise to moisten. Toss lightly and shape into balls. Roll balls in chopped parsley and serve on lettuce.

● Roll out pastry scraps. Fit into custard cups. Prick dough and bake at 450° for 10 to 15 minutes. Fill with sliced fruit. Top with whipped cream and a cherry.

● Richer, flakier biscuits: Fix baking-powder-biscuit dough. Roll out ¼ inch thick. Brush with melted butter, fold over, cut with biscuit cutter, bake as usual.

● Cheese sticks: Trim crusts from bread and cut into 3 sticks. Brush with melted butter. Sprinkle with grated cheese. Place on rack in pan. Bake at 375° 12 to 15 minutes, or until brown.

● Waffle-toasted bread: Trim off crusts and butter slices on both sides. Toast in preheated waffle iron until crisp. Serve with marmalade or creamed foods. END

Sweet 'n' Low-Cost Glamour Dessert

MADE WITH

WALTER BAKER'S

UNSWEETENED

CHOCOLATE

RECIPE

CHOCOLATE BREAD CUSTARD

2 squares Baker's Unsweetened Chocolate
2½ cups milk
¼ teaspoon salt
½ cup sugar
2 egg yolks, slightly beaten
1½ teaspoons vanilla
6 slices stale bread, cubed
1 egg white, unbeaten
2 tablespoons sugar

Add chocolate to milk and heat until melted. Blend with rotary beater. Combine salt, sugar, and egg yolks; stir in chocolate mixture. Add vanilla. Combine bread and chocolate mixture and let stand 15 minutes, stirring often. Turn into greased 1-quart baking dish and bake in pan of hot water in moderate oven (375°F.) 40 minutes, or until almost set. Beat egg white until foamy. Add sugar gradually, beating until mixture stands in peaks. Place in ribbons on top of pudding. Bake 12 minutes longer, or until meringue is delicately browned. Then sprinkle with grated chocolate. Serve warm or cold. Makes 6 servings.

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"Better check your utensils to see if you have these five essentials: 8" skillet, 1 quart, 1½ quart, 2 quart, and 3 quart saucepans."

See "Meet the Press" on NBC television every Sunday.

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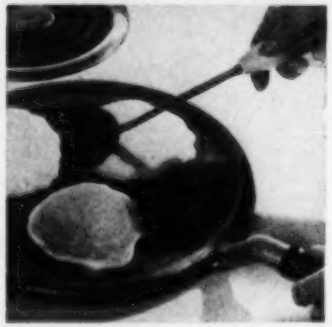


Corn Waffles

Makes four 9½x5¼-inch waffles

Sift together:
- **2 cups sifted flour**
- **¼ cup nonfat dry milk**
- **1 tablespoon baking powder**
- **½ teaspoon salt**
- **3 tablespoons sugar**

Stir in ....**½ cup yellow corn meal**
Beat .....**3 egg yolks** until thick
Stir in ....**1¾ cups milk**
- **½ cup melted shortening**

Add liquid all at once to dry ingredients, stirring only to blend.
Beat .....**3 egg whites** until stiff
Fold in whites; bake in hot waffle iron.

—*Mrs. A. D. Trochinski, Minnesota*

Peanut-butter Waffles

Makes five 9½x5¼-inch waffles

Sift together:
- **1¾ cups sifted flour**
- **1 tablespoon baking powder**
- **3 tablespoons sugar**
- **¼ teaspoon salt**

Cream ...**¼ cup butter** or **margarine**
- **6 tablespoons peanut butter**

Beat .....**2 eggs**
Add .....**1¾ cups milk**
Add egg mixture to peanut-butter mixture.
Mix well.
Add sifted flour mixture, beating with egg beater till smooth.
Bake in hot waffle iron.
Serve with **jelly** or **syrup.**

—*Mrs. George Landeur, Missouri*

Potato Pancakes

Makes 12 to 15

Combine **2 eggs,** beaten
- **2 cups milk**
- **1 tablespoon melted shortening**

Sift together:
- **2 cups sifted flour**
- **1 teaspoon salt**
- **1 tablespoon baking powder**
- **1 teaspoon sugar**

Add to liquid ingredients; beat smooth.
Blend in **2 cups grated, raw potato**
- **1 onion,** minced

Drop batter from spoon onto hot griddle.
Bake until top is bubbly and underside browned; turn once.

Recipes of the sea...

are guaranteed to spark your Lenten meals with new flavor

Baked Deviled Oysters

Serves 6

Brown ...**½ cup diced celery**
- **2 tablespoons minced onion**
- **4 tablespoons diced green pepper**
- **2 tablespoons minced parsley** in
- **2 tablespoons salad oil**

Moisten ..**2 cups cracker crumbs** with
- **2 tablespoons oyster liquor**

Add .....**1 teaspoon salt**
- **¼ teaspoon pepper**
- **2 tablespoons Worcestershire sauce**
- **2 tablespoons catsup**
- **4 drops Tabasco sauce**
- **2 tablespoons lemon juice**

Drain ....**1 quart oysters,** saving liquor
Combine above mixtures.
Place layer in 8x8x2-inch greased pan.
Add layer of oysters, combined with
- **¼ cup oyster liquor**

Cover with a second layer of cracker crumbs, layer of oysters.
Top with **½ cup cracker crumbs**
- **2 tablespoons butter**

Bake at 350° for 30 minutes.

—*Mrs. Ralph Gobel, Nebraska*

Fish Barbecue

Serves 6

Saute ....**½ cup minced onion** in
- **½ cup butter** or **margarine**

Add .....**1 tablespoon Worcestershire sauce**
- **1 tablespoon catsup**
- **1 tablespoon lemon juice**
- **1 drop Tabasco sauce**

Cut .....**2 pounds halibut** in 6 pieces
Place fish in skillet with sauce; cover.
Simmer 10 to 15 minutes.

—*Mrs. Flora Puff, Pennsylvania*

Salmon Loaf With Sauce

Serves 6

Flake . . . **1 1-pound can salmon**
Mix in . . . **1/4 cup butter** or **margarine**
Add . . . . **1/2 teaspoon salt**
3 tablespoons lemon juice
3 tablespoons onion juice
1 teaspoon minced parsley
Soak . . . . **1 cup soft bread crumbs** in
1/2 cup milk
Add . . . . **2 eggs,** beaten
Mix crumbs with salmon; place in 10x6x1 1/2-inch baking dish.
Bake at 325° for 40 minutes.
Serve hot with **Cucumber Sauce:**
Melt . . . . **1/4 cup butter** or **margarine**
Blend in **1/4 cup flour**
Add . . . . **2 cups milk,** stirring well
Cook until thick.
Add . . . . . **1 1/2 cups grated cucumber**
1 teaspoon paprika
—Mrs. Carl Strausbaugh, Ohio

Delicate Fish Fillets

Serves 6

Combine **1/2 cup cider vinegar**
1/2 cup salad oil
1/4 teaspoon thyme
2 bay leaves, broken
1 large onion, sliced
2 teaspoons salt
1/4 teaspoon pepper
Marinate **2 pounds fish fillets** in above mixture for 1 hour; drain
Top with **4 tablespoons melted butter**
Broil 3 inches from flame for 5 minutes on each side.

Tuna Rabbit With Shredded Corn Cereal

Serves 8

Melt . . . . **4 tablespoons butter**
Stir in . . . **1/2 cup flour**
1/2 teaspoon dry mustard
1 teaspoon salt
1/4 teaspoon pepper
Add . . . . . **4 cups milk,** stirring well.
Cook until thick.
Add . . . . . **2 teaspoons Worcestershire sauce**
4 cups grated American cheese
2 7-ounce cans tuna, flaked
Stir until cheese is melted.
Serve hot over **shredded corn cereal.**
—Mrs. John Kaufman, North Dakota

Pancakes and waffles

For hearty breakfasts or light suppers, here are some different recipes for the tag end of winter

Mincemeat Griddle Cakes

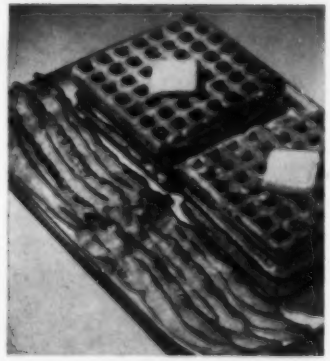
Makes 12 to 15

Sift together:
1 cup sifted flour
4 teaspoons baking powder
1/2 teaspoon salt
Stir in . . **1 cup corn meal**
Beat together:
1 egg
1 1/4 cups milk
Add . . . . . **1/3 cup melted shortening**
Blend into dry ingredients.
Fold in . . **2 cups mincemeat**
Drop batter from spoon onto hot griddle.
Bake until top is bubbly and underside nicely browned.
Turn only once.
Sprinkle with **confectioners' sugar.**
—Mrs. Edward Norman, Oregon

Bacon-Bran Flakes Waffles

Makes three 9 1/2x5 1/4-inch waffles

Sift together:
1 cup sifted flour
2 teaspoons baking powder
1/2 teaspoon salt
Combine **2 egg yolks,** well beaten
1 cup milk
3 tablespoons melted bacon fat
Add to flour mixture; mix only till smooth.
Add . . . . . **1 cup bran flakes**
1/4 cup chopped, cooked bacon
Blend well.
Beat . . . . . **2 egg whites** until they stand up in moist peaks.
Fold quickly into batter.
Bake in hot waffle iron.
—Mrs. L. W. Foubert, Iowa



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the Picture tells the story©

Whether you live near or far, Motorola TV brings you the show . . . sharp, clear and extra enjoyable! The new 1952 Motorola TV chassis is designed for perfect picture reception at all times . . . even at long range where many other sets fail or fade. This great new plus-power, along with the proved dependability and quality of features for which Motorola TV has earned nationwide fame, makes it your best buy in TV today for years to come!

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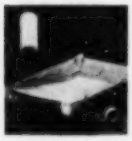
Prices and specifications subject to change without notice.

Here's how *for home painters*

Get rid of fresh paint smells—overnight! Just pour a teaspoonful of ammonia into a large bowl of water. Set the bowl in the center of the fresh-painted room. Relax and go to bed. Next morning the smell is gone. Of course, you can save yourself *all* this trouble by using Devoe Wonder Tones—the only rubber base wall paint in both flat finish for walls and semi-gloss for woodwork. Wonder Tones *leave no painty smell*, dry in 20 minutes, are available in latest decorator colors.



Clean up trick for roller coater containers! No one likes the messy business of cleaning up after a paint job, so here's a neat trick for you roller coater users. Before you start, line bottom of paint tray with two layers of newspaper. Then bend over edges and tape them down. If you use a pail, line it with a treated garbage pail bag. When painting's done, just throw papers away. Containers are as clean as when you started.

Preventing paint skin—a two edged trick! When a partly used can of paint is stored, a skin will form on the paint surface—*no matter how tightly you seal the lid!* To prevent this, float a little turpentine on *top* of the paint. Pour just enough to cover surface. Because paint thickens when it stands for long, surface turpentine can be stirred in as thinner when you're ready to paint again.

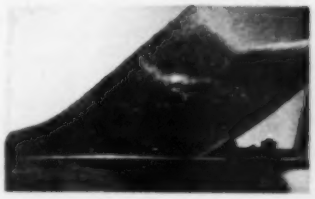
A tip for painting drawer knobs! If you paint wooden drawer knobs by holding the metal screw in your hand, you can do a good paint job. *But then you're stuck!* If you put the knob down or try to attach it to a drawer, you'll mar the wet finish. Here's a handy tip: before you start painting, screw the knobs part way into a piece of cardboard—like the top of a shoe box. You can hold the knob steady while painting—and it will sit still while drying. The perfect enamel for that knob, by the way, is Devoe Mirrolac—comes in many bright colors.

You can get all the painting accessories that you need—and many more helpful tips at the sign of the Devoe Diamond. Why not stop in and see your Devoe Dealer very soon? You'll find his name listed *in the Classified Phone Book.*

DEVOE PAINT

How to adjust a plow

[*From page 37*]

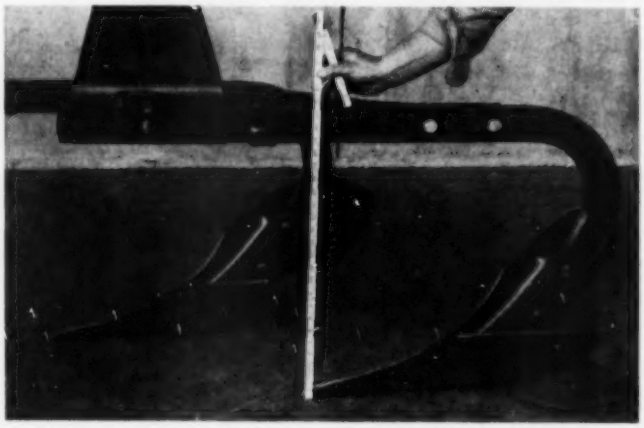


Side suction of the plowshare is important. Check the side suction by placing the plowshare in the position shown above. The space between the plowshare and the flat surface shouldn't be more than ¼ inch

Down suction of the plowshare is what keeps plow in the ground. Again, place the plowshare on a flat surface and measure distance between share and surface. One-fourth to ½ inch is the right distance

Set side adjustment on furrow wheel to eliminate landside pressure. With plow in plowing position, adjust rear wheel toward furrow wall until the rear end of the landside is ½ to ¾ inch from the furrow wall

Furrow wheel should be adjusted to carry the weight on the rear end of the plow. There should be enough clearance between heel and furrow bottom so that your finger tips can be easily placed between the two



Check for sprung beam by taking a measurement from the plowpoint to the underside of the beam directly above the point for each plow bottom. There should not be over ½ inch difference in these measurements. Heating the beam to straighten it removes the temper and weakens the beam. It's best to send it back to the factory. END

OATS, ALFALFA SEED, WET-INOCULATED PEAS

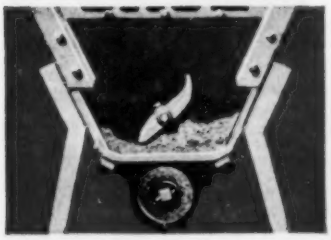
CASE DRILLS ARE ACCURATE WITH ALL

"We seeded wet-inoculated peas just as accurately as if they had been dry," says A. M. Hutchison of Washington. He adds, "I've used many different makes of drills, and none distributed the grain as evenly on the ground as the Case." Other owners report accurate seeding and superior stands in oats and other grains, alfalfa, other legumes and grasses.

SEEDMETER

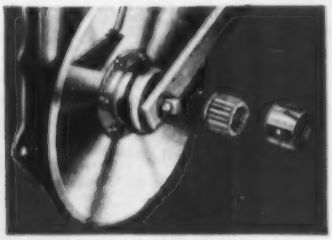
MAKES THE DIFFERENCE

PADDLE-WHEEL AGITATOR • LOW HOPPER • NEW ROLLER BEARINGS



Revolving paddles keep bearded oats and other bulky, rough seeds from bridging, assure steady supply of seed at Seedmeter. Available as extra equipment, not needed for most standard crops.

Low and large, hoppers are easy to fill, make long rounds between fills. Strong steel frame resists sagging, keeps working parts in line, prolongs the accurate life of drill.



Roller bearings are available at extra cost for single-disk furrow openers. They reduce friction, help disks turn freely, work better. Need lubrication only occasionally—save much time.

● **There's more difference in grain drills** than you might think. To get full yields of grain, full stands of grass, you need the right amount of seed in every foot of every furrow. The exact shape of the shallow-fluted rolls, the deep seed cup with adjustable gate, the wide revolving ring, the two-speed drive—all play their part in the amazing accuracy for which Seedmeter is famous. Grass-seed attachment is built with Seedmeter in smaller size. See your Case dealer now about type, size, spacing and furrow openers to fit your farming. Plan now for better stands, cleaner fields and higher yields through the years ahead.

CASE

SEND FOR LATEST FOLDERS, CATALOGS

Case builds 25 great tractors, a full line of farm machines. Mark here or write in margin any you may need. Paste on postcard, mail to Dept. C-77, J. I. Case Co., Racine, Wis.

☐ Fertilizer Drills ☐ Low-cost "VAC" Tractor
☐ Plain Drills ☐ Full 2-plow "SC" Tractor
☐ Disk Harrows ☐ 3-plow "DC" Tractor
☐ Tractor Plows ☐ 4-5 plow "LA" Tractor

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RFD _____ STATE _____

See how long your cottons stay clean...crisp..."like new"...

with my easy
LINIT RECIPE
—Jane Ashley

Home Service Department

Perfect "No-Cook" Starch with *Penetrating Action*

"No-cook" Linit is different! Its thin fluid mixture gets *down into* (not onto) the fabric. This exclusive "Penetrating Action" leaves cottons crisp, smooth, "like new". Linit-starched cottons stay clean far longer. Wash clean *quicker*, too—because grey dirt rides out on Linit. Linit also makes ironing faster and easier. Try Linit® Starch once—and you'll prefer it always.

MIX equal amount of Linit and cold water. Easy "no-cook" directions on box.

POUR boiling water gradually into mixture, stir. No straining . . . no lumps.

READY to use in cotton washables for a "Luxury Finish" you'll love.

Easy . . . You make LINIT in less than a MINUTE

FOR A LUXURY FINISH...

Available in 12-oz. and 36-oz. packages

Add color to your floors

To splatterdash a floor

You probably have the equipment for splatterdashing a floor stored in your broom closet, so why not investigate this easy way to add personality to an older room?

You'll need a very coarse paintbrush or whisk broom, a broomstick, and, of course, your paint.

First, paint the floor a solid color with deck paint—such as hard-surface enamel or exterior paint. For a cement floor, use one of the special waterproof paints made for that kind of surface.

When the first coat of the base paint is *thoroughly* dry, prepare for splattering by shielding the walls with newspapers taped around the section on which you are working. Tape the protective paper 3 feet up on the sides of the walls.

Then add a second coat of the base paint to a small section (4x4 feet) at a time and let dry until just tacky or sticky.

While it is drying, practice splattering

on cardboard or heavy paper, using your coarse paintbrush or long-handled whisk broom. Dip the "brush" into the paint, making sure it is not so heavily laden with paint that it drips. Then strike the brush sharply against a stick about the diameter of a broomstick, held about a foot from the floor.

This practice will enable you to know how much paint to use in your brush, and how hard you need to hit the brush against the stick. You can regulate the size and spacing of the dots by the amount of paint on the brush and by the distance you hold the stick from the floor.

Now you are ready to start on the floor. By working on such a small area at a time, you can splatter with one, two, or three contrasting colors, as it isn't necessary to wait for each color to dry before applying the next.

When the floor is thoroughly dry, apply a wax surface, using any brand of wax you ordinarily find satisfactory on floors. Be sure not to omit this waxing, for it protects the dots from wearing off the floor.

The polka-dotted effect of your newly splattered floors will add gaiety to a room and is an easy way to repeat the color scheme used in your furnishings.

Decorative floors are important if you want an attractive home. It's easy to splatter or mottle an old floor; you'll like the warmth it gives to uncarpeted rooms

To mottle a floor

The first step in mottling a floor, as in splatterdashing, is to paint it with a coat of deck paint or some other long-wearing paint. Use a paint suitable to the floor surface, such as cement paint or hard-surface enamel. Don't be afraid to select a color you would not ordinarily think of using on a painted floor. If your room is dark—as hallways or utility rooms frequently are—use a light, warm color such as yellow, orange, or sand beige. In a sunny sleeping room or sun porch, experiment with deeper colors such as navy blue, olive green, or chocolate brown.

Whatever your exposure problem may be, a tone that harmonizes with your color scheme will tie the whole room together. Besides repeating a color scheme, painting and mottling a floor can give an otherwise colorless or utilitarian room a completely new personality.

Put two coats of paint on the floor you are going to mottle. In contrast to splatterdashing, both of these coats should be allowed to dry thoroughly before mottling. Pick a contrasting color to use for this purpose. If the background color is dark, use a light color on top of it; if the background color is light, a darker color would show up to advantage.

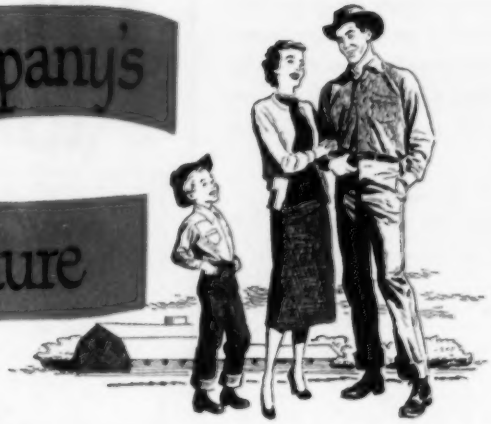
Photographs: Flatcher

Pour the paint for mottling into a wide, shallow pan, using just enough to cover the bottom of the pan. Dip a real sponge into the paint, allowing only a small amount to soak into it. Press the sponge lightly on the floor to get an interesting, irregular pattern. Repeat this all over the floor of the room you wish to decorate.

If you want a larger pattern on your floor, substitute a heavy sheet of brown wrapping paper for the sponge. Crumple the paper into a ball small enough to handle easily. Do not use newspaper for mottling because it quickly becomes soggy and will not hold the shape necessary for making the pattern.

You'll find this mottled type of finish is equally adaptable to wall surfaces as well as floors. Because so little paint is used, there is little danger of dripping. A mottled finish can also be used to cover worn spots in linoleum and make your floor look as good as new. **END**

Armour and Company's Report to Agriculture



A personal message from the President of Armour and Company

At Armour we think of ourselves as more than just an important cash market for your farm products. We are actually your working partners in the business of feeding America. Armour enjoys and respects this working partnership with farmers. We want you to know more about our business and the services we provide—and we want you to know we appreciate *your* business, both when you sell us your products and when you buy ours.

In 1951 we continued our development of new products and new and different uses for old products. We broadened our program with farmers and farm groups.

We did these things despite unusual problems arising from price controls, floods, and defense shortages. With all signs pointing to increased livestock production, bumper crops and increased farm acreage, we intend to continue them in 1952.

We hope Armour's many services to farmers in 1952, as in 1951, will help make your farming more secure and more profitable.

President, Armour and Company

Here's how you shared in Armour's 1951 sales dollar

Out of every dollar we took in on sales during 1951, 81.08 cents was spent for livestock, dairy and poultry products, and other "raw materials" and supplies.

Armour paid out $1,796,111,850 for farm products and other supplies in 1951. Here's what happened to the other 18.92 cents of the Armour sales dollar.

The company paid its 63,000 employees 10.77 cents out of every dollar. Another 2 cents went to railroads and truckers for transporting our products to customers. For maintenance, depreciation, power, communications, traveling, insurance, advertising, etc., 3.94 cents was paid. Interest accounted for 30/100 of a cent, and taxes for 1.28 cents.

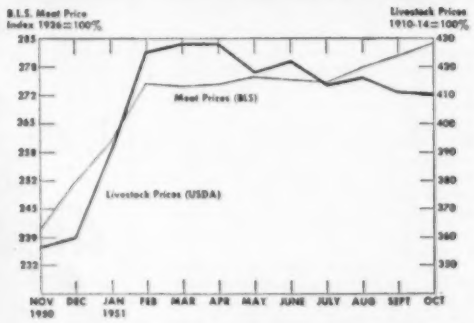
This left only 72/100 of a cent of profit for Armour from every dollar's worth of all products sold.

Total		Cents per Dollar of Sales
$1,796,111,850	Paid for raw materials, and for supplies.	81.08
238,561,984	(a) Paid to employes.	10.77
44,213,590	Paid for transporting product to customers (cost of transporting product in company owned equipment included in (a), (b) and (c))	2.00
87,386,414	(b) Paid for maintenance, depreciation, power, communications, traveling, insurance, advertising, etc. (wages paid to employes have been excluded, such wages being included in (a))	3.94
6,622,403	Interest on debt	.30
28,331,579	(c) Federal, state and local taxes	1.28
(2,055,589)	Dividends received, interest and miscellaneous income	(.09)
16,029,004	Net earnings	.72
$2,215,201,235		100.00

Here's what happened to live animal prices and wholesale meat prices in 1951

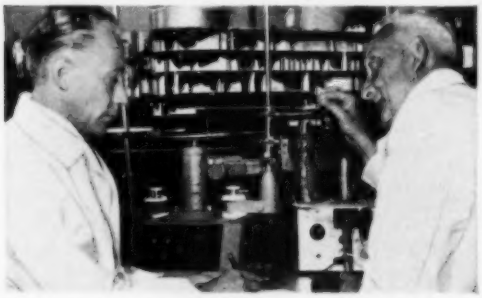
In normal years the two lines on the chart at the right would run closely parallel because wholesale meat prices and the price you receive for livestock have a direct relationship to each other.

But 1951 was not a normal year due to price controls which became effective January 25. Note that livestock prices stayed far above meat prices until July, except for a temporary drop during May. For the rest of the year, the situation was reversed. During 1951, our food operations returned a profit of only 7/100 of a cent on each pound of food sold. Established packers suffered losses on beef particularly.



Working at capacity in the world's largest beef dressing plant at Armour—a sight seldom seen in 1951. Here, in our Chicago plant, we can process 220 animals an hour. Under price controls we could not stay in compliance with government regulations and buy normal supplies of cattle. Plants like this could not work at capacity and Armour suffered serious losses in its beef operations. But whether cattle runs are heavy or light, these facilities are always kept ready for you. They are a part of our fixed operating expenses.

Bringing home the fatted calf! Young man with the prize calf is Bill Hunter, Little Sioux, Iowa, one of the lucky winners in an Armour-sponsored calf scramble at the 1951 Iowa State Fair. He gets the calf. After a year's supervised care and feeding, it may win him an Armour scholarship to an agricultural school. Armour also helps poultry farmers raise meatier, healthier chickens; teams with farmers to fight animal diseases, develop improved vaccines—all part of our program of working *with* farmers.



Searching for muscle secrets! Rhythmic beats of a frog's heart are measured by Dr. Stephen Hajdu, left, and Dr. Albert Szent-Gyorgyi, famous Nobel prize winner. This is part of a research project started in 1951 under an Armour grant-in-aid. This project may lead to new knowledge that will improve the curing and processing of meats—and help combat both animal and human diseases, too. 450 skilled Armour research people work year around in developing new and better ways to use and process *your* farm products.

Advertising widens the markets for you! News of Armour products travels fast through advertising. By reaching every corner of the nation, Armour quickly tells the sales stories of its many products to the millions of men and women who will buy them. No other method of creating mass sales has equalled the success of advertising *at so little cost per sale*. That's why advertising is so vital to the job of moving *your* products to consumers—and bringing consumer dollars back to *you*!

How to make your farming more secure!

Every time you shop you have an opportunity to help Armour make your farming more secure. Every Armour product you buy helps to maintain the large volume of sales Armour needs to provide you with a ready cash market—a *growing* cash market.

Every Armour product you buy also helps us continue research that's important to you: research for new products to increase the demand for your "raw materials"; research for new ways of improving the quality of poultry and livestock and increasing the rewards for your efforts.

Products like the ones you see on this page have made the Armour name famous for quality. Today, Armour processes, distributes and sells more than 2,000 products for home, farm and industry. Try some. You're sure to find many new favorites in the Armour family. And remember, you make *your* farming more secure when you take home several Armour products every time you shop!

Armour and Company

- **Buyer** of hogs, cattle, calves, sheep, lambs, milk, cream, chickens, turkeys and eggs.
- **Seller** of more than 2,000 products for farm, home and industry.

CONTROL OF "BLUE COMB" IN TURKEYS

14 days, as high as 50 per cent mortality WITHOUT TERRAMYCIN

2 days, less than 5 per cent mortality WITH TERRAMYCIN

Source: The State College of Washington, Scientific Paper No. 985.

Here's good news for turkey farmers—as reported by a leading authority on poultry. During a recent occurrence of "blue comb" (or "mud fever"), experimental doses of Terramycin were given 600 poults, producing the remarkable results you see above. Other turkey farmers, using Terramycin-supplemented feeds for faster growth of their flocks, are finding an additional benefit of Terramycin in reducing the occurrence of this disease. This is another example of the way Pfizer's Terramycin is working to help farmers get bigger and better birds and animals to market faster. Write us for full information.

Terramycin

...from the world's largest producer of antibiotics

Pfizer

Chas. Pfizer & Co., Inc., Brooklyn 6, New York
Headquarters for antibiotics and vitamins for animal health and nutrition

Find new calf starter effective

A new, low-cost, simplified calf starter suitable for farm mixing has been giving excellent results in tests at the University of Illinois College of Agriculture.

Dairyman K. E. Gardner reports that average growth rates of about 60 calves on test were above normal and compared closely with those of 20 control calves receiving a starter containing dried skim milk and a wide variety of other feeds.

The starter for the 60 test calves included 50 percent ground yellow corn, 20 percent ground or crushed oats, 27 percent soybean oil meal, 1 percent salt, 1½ percent steamed bonemeal, and 2/10 of 1 percent of a dry, powdered vitamin A and D supplement.

The calves first received this starter at 2 weeks of age and were carried on it to 4 months of age. They received it free-choice up to 4½ pounds daily, with good-quality alfalfa hay free-choice.

Gardner says the calves were limited to a total of only about 350 pounds of whole milk fed over an 8- to 10-week period. This is less than half the whole milk often fed by farmers who do not use the calf-starter method. Less whole milk means lower-cost calf feed.

The dry vitamin supplement provided 4,000 units of vitamin A and 800 of vitamin D in each pound of starter. The powder is easy to mix with other ingredients and can be obtained at poultry-feed stores.

A more complete, detailed report will be made after the test is completed.

Uses funnel for killing chickens

No more chopping block with blood flying all around, using this modern chicken-killing method. Jim Hubert, Rock County, Wisconsin, just stuffs the bird's head through a metal funnel (you may have to pull it through from below) and slices its head off with a sharp butcher knife. Be careful not to cut your hand, Hubert cautions.—*L. J. N., Illinois.*

Modern...yet time-tested

BEAUTY and lasting service are assured in fixtures and fittings identified by the Kohler mark.

The Cosmopolitan Bench Bath, with useful seat, comfortable slope end and flat, safe bottom, is of nonflexing iron, cast for rigidity and coated with Kohler enamel.

The Gramercy vitreous china lavatory has an unobstructed shelf, built-in soap dishes. Surfaces are glass-hard, easy to clean. Kohler chromium-plated fittings are efficient, reliable.

The Niedecken Mixer serving the bath has a single handle for safe, easy control of water temperature for shower or tub.

Consult your Kohler dealer on selections for bathroom, washroom, kitchen or laundry.

Kohler Co., Kohler, Wisconsin. Established 1873.

Send for Booklet E-3 *illustrated in color, showing arrangements of fixtures and fittings in modern settings.*

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AIR-COOLED ENGINES • PRECISION CONTROLS

ONE Majestic (Two-Fuel, Single Oven!) RANGE

provides a ROOM HEAT in combination with a COOKING and BAKING HEAT from a SINGLE Kitchen Appliance!

Don't Buy TWO When ONE Will Do!

Save the two-way cost of a separate kitchen heater and a separate kitchen range! A NEW MAJESTIC ELECTRIC COAL-WOOD or GAS COAL-WOOD Range, glistening in your kitchen, does your cooking, baking and kitchen heating in one economical operation . . . without a single adjustment!

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Please send me complete information on the thrilling MAJESTIC ELECTRIC Two-Fuel, Single Oven Range.

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Boys put themselves in the livestock business

By Hadley Read

Unless a generous dad can put up the money to start his son in an F.F.A. project, where does a fellow get the cash? Charles Conner, a vocational-agriculture student at the Mulberry Grove, Illinois, high school, ran up against this common problem last spring when he wanted to go into the purebred-hog business.

Some young farmers get a long-term loan. Charles found a better solution. He paid a visit to R-Farm, a 147-acre farm ½ mile west of Mulberry Grove, and purchased a bred registered Hampshire gilt on credit, interest-free. The gilt cost him only $65. If he had bought a similar gilt elsewhere, it would have cost him in the neighborhood of $90 to $100.

Four days later, the gilt farrowed 9 strong, healthy pigs. Charles saved them all. At the end of 2 months, he kept the sow and 1 of the gilt pigs and sold the other 8 pigs back to the R-Farm for $12 per head. After paying off his original investment, young farmer Conner had his start in the hog business with $31 in cash, a purebred sow, and a purebred gilt. His net cost was the 2 months' feed for the sow and litter plus his labor.

Since 1946, by offering a supply of purebred foundation stock at the going market price, this unique farm setup has helped hundreds of vocational-agriculture students like Charles get a start with their farm projects. If the boys can't pay cash for the stock at the time they buy it, they can settle up when the return from their project comes in. Services of the farm's purebred herd boars and sires are available for the boys' livestock enterprises without charge. Also, they can buy feed, seed, and fertilizer at wholesale prices from the farm.

There isn't a catch to this story. The boys earn these advantages. You see, R-Farm belongs to them—to the past and present members of the Mulberry Grove Chapter of the F.F.A. At least, it will belong to them as soon as the rest of the mortgage is paid off.

Charles Conner became part owner of the farm when he invested $10 in it at the start of his freshman year. Sophomore Jerry Wall is part owner and so are Maurice Snow, Larry Perkins, Floyd Dothager, Norman Siebert, Jim Nesbit, Dean Ellsworth, Lloyd Fernigan, Allen Wells, and most of the rest of the active members of the F.F.A. chapter.

Each boy has invested at least $10 in R-Farm, and when he graduates he will get his $10 back plus interest at 5 percent compounded semiannually. Then, by paying small yearly dues until he is 21, he can become a life member.

While the boys are in school, R-Farm is their classroom laboratory. The students do much of the actual farm work, includ-

[*Turn to page 72*

Purebred Hampshire gilt is shared project of Melvin Devore and Edward Bauer. Boys can wait to pay R-Farm for stock until the returns come in

The record books are checked by Agriculture Instructor Clarence Croxville and nine of the young owners. Boys manage and run R-Farm, collect profits

Behind him are 76 years of telephone experience

This telephone lineman carries to his job 76 years of experience—accumulated by Bell System people, day by day, since the telephone was invented. No wonder he knows his business.

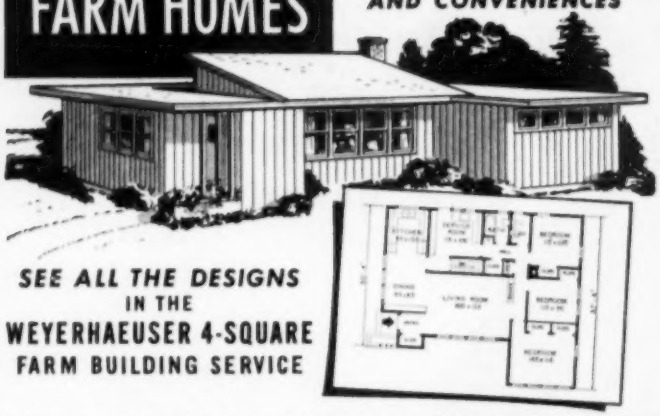
In telephone work, as in farm work, experience counts for a great deal. And it generally adds up to newer, better, faster ways of doing things.

An important part of today's telephone job is the expansion and improvement of rural service. Since the war, experience has helped Bell System people add 1,850,000 telephones in rural areas. And we're keeping right on, at the rate of a thousand every workday.

BELL TELEPHONE SYSTEM

NEW FARM HOMES

PLANNED FOR MODERN COMFORTS AND CONVENIENCES

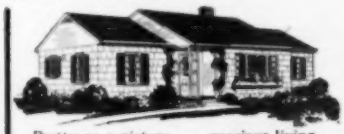


SEE ALL THE DESIGNS IN THE WEYERHAEUSER 4-SQUARE FARM BUILDING SERVICE

● There are many modern, practical farm homes in this Service. Each is designed to include the comforts and conveniences of city houses, with special service and utility features to meet today's requirements for modern farm living.

You can see all of these ideal designs at the office of your Weyerhaeuser 4-Square Lumber Dealer. See him, or mail the coupon below.

Large living room with fireplace . . . two bedrooms . . . efficient L-shape kitchen . . . large service room with lavatory, shower, clothes closet.

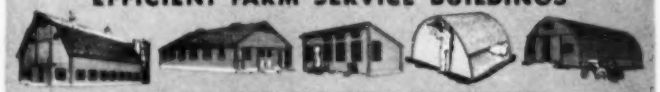


Pretty as a picture . . . spacious living room . . . modern kitchen . . . three bedrooms . . . service room with complete bathroom facilities.

Five rooms—one story—and with space to grow. Finish first floor at outset. There is room above for two bedrooms and bath. Excellent service room facilities.

Modern design with picture window. First floor has one bedroom, kitchen, dining area, living and service rooms. Space upstairs for two bedrooms and bath.

EFFICIENT FARM SERVICE BUILDINGS



SIZES AND TYPES FOR EVERY SHELTER NEED

WEYERHAEUSER 4-SQUARE LUMBER AND SERVICES

WEYERHAEUSER SALES CO. SF 352

2210 First National Bank Bldg., St. Paul 1, Minn.

● Please send me the Free Farm Home Book.

Name _____

Address _____

Town _____ *State* _____

Boys put themselves in the livestock business

[*From page 70*]

ing planting, cultivating, and harvesting. They follow sound, modern farming practices which pay off in improved soil, higher-yielding crops, better livestock, and more income. The management of the farm is handled as a part of their regular vocational-agriculture class sessions.

How did this ambitious project all get started? You'll be interested because it's a practical idea your community may want to consider. It was back in 1946 that hard-working Clarence Croxville helped the 33 boys in his vocational-agriculture class at Mulberry Grove organize their F.F.A. chapter. The boys and Croxville outlined a program of work calling for projects in soil improvement, sound cropping practices, and purebred livestock. But, right away they ran up against a real problem. Good purebred stock was hard to find at prices the boys could afford to pay. Without good livestock, the animal projects were not worthwhile.

The more Croxville pondered the problem, the more sure he became of the answer. Why not buy a farm? The boys could work and manage the farm and raise their own purebred stock.

The boys were enthusiastic. But the members of the school board and the newly organized Adult Advisory Council to the F.F.A. chapter were not so sure. Buying a farm was serious business with present high prices. There was some doubt that a group of boys could manage and operate a farm successfully. There would be taxes to pay and interest on investment. But they finally agreed to try the experiment.

The 147-acre farm purchased was not the best farm in the community, but the boys didn't want and couldn't afford the best farm. Improvements were needed, but the boys would learn by making the improvements. Some new buildings were needed, but they could be built in time.

The selling price was $11,000—about $75 per acre. Could that much money be raised in the community? Croxville thought it could.

The school board put up $5,000 for a first-mortgage loan. The advisory council signed a note for a $4,000 loan from the local bank, and Croxville invested the remaining $2,000 out of his own savings.

By midsummer of 1947, the boys had their farm but no livestock, machinery, or money for operating it. Working capital was needed, and the minimum was $1,000.

When school opened, Croxville and

Chemical weed-control information is put to test by the boys. On the spray rig are Maurice Snow, Larry Perkins, Jerry Wall

the boys worked out a plan for raising the money. Each boy who wanted to participate in the farm's business would be asked to invest at least $10. He could invest more, but no more than $100. At the start, the money would draw 3 percent interest compounded semiannually. At graduation, the boy could withdraw his investment plus interest or leave it in the farm as part of his savings plan.

Although most of the boys invested more than the minimum $10, they were still short of the needed $1,000. By this time the whole community was interested in the project. The farmers and merchants of Mulberry Grove and surrounding towns contributed merchandise for a community auction sale. That put the boys over the top, and they were ready to go to work.

The first year most of the $1,000 was used to buy 3 purebred cows as the start of a purebred dairy herd. The purebred-hog project was started with a "loan" of 2 registered Hampshire gilts from farmer Leo Wells, who said the gilts could be paid for out of the first litters.

In 4 years the boys have paid off more than a fourth of the mortgage indebtedness. At the same time they have spent more than $1,000 for fertilizer to start a sound soil-improvement program. Another $1,500 has been wisely invested in needed fencing.

This summer the last nail was driven into a new barn that cost $6,000. After getting by the first few years on generous farm-machinery loans from local implement dealers and neighboring farmers, the boys voted to start equipping their farm with the needed machinery. A total of $5,000 has been spent so far toward this end.

Since the farm was organized, total operating expense has been $64,718. Much of this money has gone for purebred foundation livestock, including hogs, dairy cows, and beef cows. From this foundation stock the boys buy their calves and gilts at the going market price for the weight and grade.

Because of the size of the farm operation, one hired man is needed, and during the rush seasons some of the older members are hired for part-time work. They can take their pay in cash or leave it in the farm savings plan.

This savings plan is a unique feature of R-Farm. It serves as an incentive to save for the chapter members and as a source of working capital for the farm.

What has all this meant to the boys and to the community of Mulberry Grove?

Last year alone, the boys bought more than $14,000 worth of purebred livestock from the farm at market prices. If they had gone away from the farm for the same stock, they would have paid at least twice as much.

In many cases the gilt or heifer taken by the boy from R-Farm has become the foundation for improved livestock production for both son and father.

The lessons learned in soil improvement, crop production, farm-record keeping, and money management are not confined to the classroom and the 147 acres which make up the farm.

The Mulberry Grove community owes much to Clarence Croxville and the boys of R-Farm. And the debt might well be shared by the whole state of Illinois—and the United States, for that matter. **END**

You Can Get 3 lb. Chicks in 10 Weeks on 9 lbs. of Feed

Cut death losses and breakdowns

... if You Feed and Manage right

JAMES H. MURPHY, President
MURPHY PRODUCTS CO.

HERE'S HOW RUSSELL HARTSOUGH, ROUTE 3, BREMEN, IND., DOES IT WITH *MURPHY'S VIG-O-RAY CONCENTRATE* AND HOME-GROWN GRAINS

At 10 weeks these chicks averaged 3 lbs.

This picture shows some of the 8,000 straight-run hatchery chicks fed by Russell Hartsough. He keeps accurate records and knows exactly what his chicks are doing all the time. He says:

"When this picture was taken these chicks were 8 weeks old, and some of the broilers weighed 2½ lbs. At 10 weeks the entire flock average was 3.1 lbs. Each pound of gain was made with only 2.86 lbs. of feed. The death loss was exceedingly low. I didn't even lose all my extras. I got these excellent results by feeding mashes made according to directions with MURPHY'S VIG-O-RAY CONCENTRATE."

Now, Mr. Hartsough's experience is not unusual, for it's being duplicated by thousands of MURPHY feeders all over the Midwest. With good stock, proper care and sanitation, and the right feed there's no reason why you can't do it too with *your* flock, right on your own farm.

What's the Secret?

Well, it's no secret at all. Any chick, no matter how good, in order to live and stay healthy, has to avoid infection and disease. When fed properly it *stands a good chance* not only of surviving, but paying you a profit, as well. Chicks need a proper balance of proteins, minerals and vitamins in their rations, and since farm feeds do not usually supply this balance, it will pay you well to fortify farm grains with MURPHY'S VIG-O-RAY CONCENTRATE. In *one* bag MURPHY'S VIG-O-RAY CONCENTRATE provides the extra essential protein, mineral and vitamin substances required to do this job—including the new antibiotics and Vitamin B_{12}. This better balance of essential nutrients promotes faster, healthier growth on less feed.

Cuts Death and Breakdown Losses

Poor feathering, curly-toed paralysis, rickets, nutritional roup, slipped tendons, leg weakness, cannibalism, toe-and feather-picking are signs of nutritional deficiencies. Proper feeding helps cut these down and builds bigger, healthier birds in a shorter time.

Simple, Easy and GUARANTEED!

Here's a simple, easy, low-cost way to make sure your chicks get the feed essentials they need. Just mix, or have your dealer mix:

200 lbs. MURPHY'S VIG-O-RAY CONCENTRATE
100 lbs. wheat middlings
50 lbs. No. 1 alfalfa meal
100 lbs. ground oats
300 lbs. ground yellow corn

Feed this mash to your chicks and watch them thrive and grow! Improved vigor, faster growth, lower feed costs are **GUARANTEED** when you feed MURPHY'S. Go in to your Murphy Dealer's today!

What about your laying flock? If your hens are dropping off in production and suffering breakdowns, why not cut down these troubles and your cash outlay for feed at the same time? Use an egg mash made with MURPHY'S VIG-O-RAY CONCENTRATE and your own ground grain. It's GUARANTEED! Ask your Murphy Dealer about it.

MURPHY PRODUCTS CO.
BURLINGTON, WISCONSIN

THE ONLY IMPLEMENT that does the combined work of
• DOUBLE DISC
• WIRE-TOOTH HARROW
• FLOAT
IN ONE OPERATION

TWICE over average plowed field prepares ideal seed and root bed

Think of it — only one implement needed between plowing and planting to give you a fully prepared seed and root bed! It's better and *faster*, too, for your 4½" deep seed bed is mulched to perfection in only two times over when soil is in normal working condition. Note above how the "Soil Surgeon" reduces rough plowed ground to a fine, even texture to increase yields. For this implement alone works plowed ground DOWN, never UP, conserving moisture in the soil to promote faster germination.

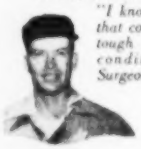
"Soil Surgeon" sections are easily attached behind tractor, then pans are simply loaded with dirt to provide desired weight for depth of cut. Works *right* in any type soil — clay, gumbo, buckshot, sand or loam — for any type farming.

And for early cultivation of young corn, beans, peas, etc., and for breaking crust for oncoming crops, there is no finer tool!

EVERY SECTION OF THE COUNTRY PRAISES PERFORMANCE OF THE

"SOIL SURGEON"!

T. E. NICHOLS, CRETE, NEB.
"Since purchasing a 'Soil Surgeon,' my wheat went 10 bu. to the acre more than my neighbors."



JAMES S. PAYNE, HOPE HULL, ALA.
"I know of no other tool that could have gotten my tough land in such fine condition as the 'Soil Surgeon' did."

ELMER SMITH, LAINGSBURG, MICH.
"My 'Soil Surgeon' saves me trips across the field, does a better job fitting my seed beds. It's a great tool!"

ASK YOUR DEALER!

See your "Soil Surgeon" dealer and ask for a demonstration — preferably in action on your own soil, or in your area. Actually, the "Soil Surgeon" looks so simple you won't appreciate what it can do until you see it in the field. If he hasn't one in stock, write us for details.

Simple Construction Promises No Maintenance, Nothing To Repair

The "Soil Surgeon" consists of two heavy steel pans with double-edged cutting knives of highest quality carbon steel bolted to bottom. Each pivots on its own bearings to follow tractor's line of travel. Knives are staggered in position to cut every 1-1/5". Two width pans: Standard 48", and 38" for hydraulic lift tractors. To transport, flip over onto skids.

FASTER CORSON BROS., INC. FARMING

2165 N. Sherman Drive, Indianapolis 18, Ind.

Two-way plow good on slopes

With a two-way plow you can start a back furrow and not have a dead furrow until you reach the opposite side of the field. You can throw all furrows uphill, and plow irregularly shaped fields with ease.

This versatile plow consists of two separate bottoms or gangs. One throws the soil to the left, the other throws it to the right on the return trip. One plow is out of the ground while the other is working.

Plows come in mounted, semimounted, and pull types with single and multiple bottoms.

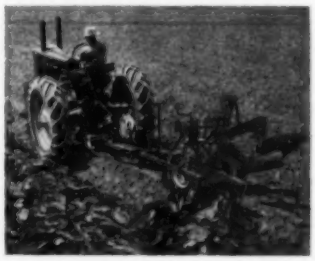
Agricultural engineers at the University of Wisconsin point out these advantages for the two-way on rolling land:

You don't have so many back and dead furrows. On a field cropped in strips, the dead furrow at the bottom of the plowed strip will carry water into the hayfield in the next strip, causing little or no damage. The dead furrow in the middle of a field plowed with an ordinary plow often collects water, overflows, and causes trouble.

Absence of dead or back furrows means less machinery breakage. Also, the pickup attachments of machines like combines, balers, and forage harvesters work more efficiently.

Erosion losses are reduced when furrows are turned uphill. Also, furrows turned uphill make for better traction and safer operation on slopes because the rear tractor wheel on the high side runs in a furrow. That means the tractor stays almost level even on as much as a 12-percent slope.

Irregularly shaped fields are often hard to lay out with ordinary plowing. Not so with the two-way plow. You plow a furrow, trip out your plow at the end, and come back along the same furrow.



So you're going to move . . .

Please be sure to send your change of address to *Successful Farming*, Des Moines 3, Iowa, five weeks before you move, if possible.

Give both your *old* and *new* addresses. A clipping of the stenciled label from a recent issue will help us to see that you don't miss any copies of your *Successful Farming* subscription.

Here we go again!

"March 15th, Tax Day, is around the corner . . . and here I am, wrestling with Form 1040 again! You, too, I'll bet.

"Sure, I gripe about it *every* year. Who doesn't? It's like yelling at the umpire. Or beefing about the weather. That's our privilege!

"*But this year's taxes really hurt.* Now don't get me wrong . . . I *believe* in taxes. Can't run a government without taxes. And when it comes to our government spending money *honestly and efficiently* for Defense, Freedom or Good Government . . . it can have the shirt off my back.

"But down at the Republic plant I work hard for my dough. And, naturally, I get burned up when I read about a lot of money being spent *foolishly* by our government. That, of course, goes for all levels of government . . . federal, state, county and local. They're *all* run on our tax money . . . yours and mine.

"And when I say 'our' tax money, it reminds me that *companies* groan about taxes, too. *They've* got 'living expenses' same as we do, and taxes take an even bigger bite out of their income than they do out of ours.

"What's left of *our* pay, we call savings. What's left of a *company's* 'pay', is called profits. It is profits that create new jobs by improving and expanding industry. Without company profits, a lot of us citizens would *lose* our jobs.

"To get back to this business of *spending* . . . my wife runs our home with simple, sensible day-by-day economy. And so do my neighbors' wives. So does any well-managed business. So why shouldn't our government . . . national, state, county and local . . . practice that same common-sense economy, too? With, I repeat, *our* hard-earned dough!"

REPUBLIC STEEL

Republic Building • Cleveland 1, Ohio

Republic BECAME strong in a strong and free America. Republic can REMAIN strong only in an America that remains strong and free . . . an America whose vast Agricultural Industry is unsurpassed. *And through Agriculture, Republic serves America.* Republic's wide range of farm products includes steel roofing, siding, fencing, barbed wire, fence posts, nails, bale ties, culverts and pipe. Republic steels are found in thousands of farm tools and machines for field, pasture and homestead. Through its Agricultural Extension Bureau, too, Republic works closely with the farmer and his problems to help keep America the best fed nation on earth.

* * *

For a full color reprint of this advertisement, write Dept. C, Republic Steel, Cleveland 1, Ohio

Sizzling mad at **scorchy** pans?

BRILLO
soap pads-
TWICE the **SHINE**
in half the time!

Whisk burnt pans *bright*—with a square metal-fiber Brillo pad-with-soap! Tests *prove* Brillo gives aluminums *twice the shine in half the time!* Outshines all types of cleansers tested!

RED BOX—*soap-filled pads*
GREEN BOX—*pads plus cake soap*

THRIFTIER—5 AND 12 PAD BOXES

New improved Brillo lasts longer!

How to make

good French fries

Steak 'n' French fries is one of the surest ways to a man's heart. Not everyday fare, of course, but the special kind of treat that's worth waiting for. Still, even such a sure-fire combination can be disappointing if the French fries aren't crisply brown on the outside, mealy and tender on the inside, served piping hot, and salted just right.

Perfect French fries are easy to make if you follow the four simple steps pictured below.

Tips for French frying

1. Use at least a 4-quart saucepan or kettle for French frying potatoes. Otherwise it will take a long time to get a family batch done.

2. Have your saucepan ½ full of hot fat when you begin frying. If the fat gets below the ⅓ mark, add more fat so the potatoes will be covered at all times.

3. Use a wire basket (one that fits in the kettle you use) to hold the potatoes in the deep fat for the frying process. This enables you to dip the potatoes in and out easily; allows excess fat to drain off without congealing on the potatoes.

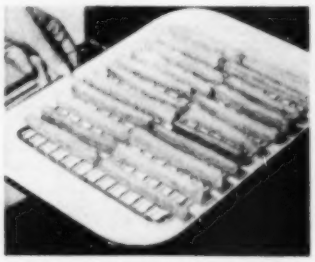
4. Use a deep-fat-frying thermometer to be sure the temperature of the fat is right. If the temperature is too high, there's danger of burning; if too low the potatoes will be underdone and grease-soaked. If you don't have a deep-fat-frying thermometer, it's worth the investment if your family enjoys really good French fries and wants them often.

5. Always drain the potatoes thoroughly on absorbent paper after removing them from deep fat. If the fat clings to the outside of the potatoes, it will soak into the fries, making them soggy, greasy, and unappetizing.

Photographs: Stanley

1. Wash and peel mature potato and cut into ⅜x2½-inch strips (1 large potato per person). Soak for an hour in ice water; drain. Fill 4-quart saucepan about ½ full of fat. Fill frying basket ⅓ full of potato strips. Fry in deep fat at 360° on deep-fat-frying thermometer until tender but not brown. Stir with long-handled fork. Remove from basket and spread on absorbent paper to drain.

2. Just before serving time, return the potatoes to the frying basket. Fry the potatoes a layer at a time at 390° on deep-fat-frying thermometer until crisp and brown. It takes about 2 minutes to finish one batch. Again spread on absorbent paper to drain. Sprinkle with salt and serve immediately. Double frying makes a crisper, better-cooked potato, and reduces last-minute-preparation time.



3. To keep French fries hot: Spread fries in layer over a wire rack in shallow pan. Then hurry them into a 350° oven where they'll stay crisp until serving time.

4. Served hot and crisp with a luscious steak, hamburgers, or most any meat, these French fries will certainly delight the lucky men of the house. **END**

KELLOGG'S INVITES THE KIDS TO MAKE THE ADS...

This ad was written by Malcolm Kovacs, age 8, of Chicago, Ill. That's his picture. We figure people sometimes get tired of ads done by regular writers. So we thought we'd give a chance to kids in this country who have an urge to write and draw. If you're 14 years old, or less, why not get out your colors and send in an ad now? Put a Kellogg's Corn Flakes box top with your entry and mail it to Kellogg's, Box 300, Battle Creek, Mich. Your ad automatically makes you a member of *Kellogg's Junior Admakers' Guild*, and we'll send you a swell pin to wear. Also, if we use your ad in a magazine or over the air, Kellogg's will send you a $100 U. S. Savings Bond. Fair enough? How about it? See simple rules for entries on Corn Flakes package or write Kellogg's for them.

Every entrant gets this pin.

WHO DO YOU KNOW... THAT DOESN'T LIKE KELLOGG'S CORN FLAKES? or WHOM do you know?

THIS ALADDIN 5-ROOM HOUSE $1974 FREIGHT PAID

YOU CAN BUILD THIS ALADDIN READI-CUT HOUSE YOURSELF...and Save Hundreds of Dollars!

For over 45 years Aladdin has manufactured its own houses and sold them direct to home builders. The finest quality KILN DRY lumber is used. This lumber is cut to exact size on fast, precision machines in Aladdin's own mills. Because the Aladdin Readi-Cut System eliminates expensive hand measuring and cutting you save as much as 30% on labor. You save 18% on waste also. And you can choose the size and style house you want from Aladdin's 110 beautiful designs. YOUR COMPLETE HOUSE will be delivered IN ONE SHIPMENT direct from our mills. Not only will you save money but you'll have a house to be proud of throughout the years.

THIS IS THE WAY TO BEAT THE HIGH COST OF BUILDING!

BUILD YOUR OWN HOME

Every hour you put in on the construction of your Aladdin house means a saving to you of from $2 to $3 per hour—$14 to $21 a day! Total carpenter work runs from 800 to 1200 hours, depending on the house you choose. WITH MOST OF THE SKILLED LABOR ALREADY PERFORMED at the Aladdin mills think how easy it should be for you to bring the cost of your new home down to practically a pre-war level. Our drawings and instructions are simple to follow and cover everything from the foundation up so you can save any or ALL labor costs.

WHAT YOU GET WHEN YOU BUY AN ALADDIN HOUSE

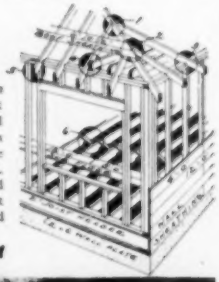
- ALL THE LUMBER accurately cut to fit, marked and numbered ready to erect practically without use of a saw.
- SIDING
- FLOORING
- DOORS
- HARDWARE
- PAINT
- TRIM
- MILLWORK
- MOULDINGS
- WINDOWS
- GLASS
- ROOFING
- NAILS
- COMPLETE DRAWINGS & INSTRUCTIONS

Hundreds of Aladdin home buyers have erected their own houses

WHAT READI-CUT MEANS

The picture at right shows how Aladdin lumber is cut to exact size—mitred and beveled for perfect fit. An Aladdin Readi-Cut House is identical in DESIGN, CONSTRUCTION and MATERIALS to the best architect-planned and contractor-built home.

IMMEDIATE DELIVERY



ALADDIN GUARANTEE SATISFACTION OR YOUR MONEY BACK

ALADDIN HOUSES ARE NOT PREFABRICATED

THE ALADDIN CO. Est. 45 Years

BAY CITY, MICHIGAN

Send 25¢ FOR BEAUTIFUL NEW FULL-COLOR CATALOG No. BF-3

Spicy notes

● For simply delicious chicken pie, try this little trick. Season the biscuit dough (or pastry dough if you are using it) by adding 1 teaspoon crumbled leafy sage and ½ teaspoon nutmeg to the flour in the recipe. Proceed with your chicken-pie recipe. Notice how the sage and nutmeg enhance the flavor of the chicken. Chicken-and-dumplings takes well to this same treatment, too.

● Remember to include a generous sprinkling of onion salt and celery seed along with salt and pepper when seasoning veal roast.

● For delicious fried-chicken gravy, add a bit of poultry seasoning (about ¼ teaspoon per cup) to your regular gravy recipe.

● Vegetable soup takes on a hearty, satisfying flavor when garlic salt (¼ teaspoon per cup of soup) is added with the regular seasonings.

● To make hamburgers taste a little different next time, add ¾ teaspoon curry powder to each pound of ground beef along with the usual salt and pepper. Shape the hamburger into patties and grill, broil, or fry.

● To give new zest to wieners or frankfurters, follow this easy cooking tip. When simmering the wieners or franks, add ½ teaspoon chili powder to the salted water. The spicy touch helps the flavor.

● These spicy topping ideas add a party touch to familiar desserts: (1) Mix a little chopped candied ginger into sweetened whipped cream and serve on warm gingerbread or pumpkin pie; (2) crush a few red cinnamon candies (called "red-hots") with a rolling pin, mix into sweetened whipped cream, and serve on apple pie or baked apples.

● To make leftover rice more interesting: Season 2 cups of rice with minced parsley, green pepper, salt, pepper, a dash each of allspice, cinnamon, and cloves, plus 3 tablespoons melted butter. Bake in a greased casserole just long enough to heat through.

● A plain custard will have more character if flavored with a dash of nutmeg. Just sprinkle some over the tops of the custards before baking. Old-fashioned bread pudding tastes just that much better if sprinkled lightly with nutmeg before baking.

● Dried celery leaves make an excellent, fresh-tasting seasoning for soups, stews, and stuffings. When next you have a nice bunch of celery, break off the leaves, place them on a cooky sheet, and dry in a slow oven until they are brittle and powdery. Store in a glass jar and place it in a handy spot on your spice shelf. Parsley can be dried the same way.

● You can make a flavorsome salad or salad garnish by adding cinnamon and nutmeg (just a pinch of each) to cottage-cheese or cream-cheese balls.

● Give canned vegetables a flavor lift by adding a pinch of nutmeg to the white sauce which goes over them. Or sprinkle nutmeg lightly over buttered carrots, cauliflower, kale, potatoes, spinach, sweet potatoes, or succotash. You can give glamour to cauliflower, peas, potatoes, spinach, and carrots by adding $\frac{1}{4}$ to $\frac{1}{2}$ teaspoon of rosemary to their cooking water.

● For a more delicious apple pie with a zesty flavor, try adding a dash of mace to the filling. Mace also gives stewed cherries a special spicy flavor.

● One whole bay leaf, crushed, will give a wonderful flavor to a can of tomato soup, tomato aspic, or tomato juice—that extra dash that makes good food better.

● A delicious topping for practically any pudding is spiced whipped cream. Sweetly spiced, it adds special glamour to any pudding. You can use your favorite sweet spice—nutmeg, cinnamon, or mace.

● If you get tired of eggs the same old way, try these quick ideas. Shirred eggs will taste wonderful if sprinkled lightly with thyme before baking. Or, if you prefer your eggs scrambled, add 1 teaspoon celery seed to 4 eggs for a new taste treat. **END**

Send us your recipes

Do you have a recipe to submit for testing in our kitchen? *Successful Farming* pays $5 for each recipe published on the Successful Recipes pages. Please write on only one side of the paper. We cannot return unused recipes.—Editors

Compare the ingredients of all leading margarines!

Only YELLOW DELRICH Margarine

is a skillful blend of pasteurized

Sweet WHOLE MILK

with nutritious vegetable oil

YES!

COMPARE THESE DELRICH INGREDIENTS

Sweet Whole Milk 16%
Refined Cottonseed Oil.....80%
Other Ingredients (Listed on carton) 4%

Delrich is made of: HARDENED COTTONSEED OIL, WHOLE MILK, SALT, SODIUM SULFOACETATE DERIVATIVES OF MONOGLYCERIDES, LECITHIN, 15000 U.S.P. UNITS VITAMIN A PER POUND, SODIUM BENZOATE 0.10%, ADDED AS A PRESERVATIVE, ARTIFICIALLY FLAVORED AND COLORED. 2 OZS. SUPPLY 46% OF THE MINIMUM ADULT DAILY REQUIREMENT OF VITAMIN A.

TRIED OTHERS? NOW TRY—
THE DELRICH TASTE!

Delrich Margarine brings you what we honestly believe is the finest, most delicious margarine ever made. Yet—
Delrich costs you no more than ordinary margarines!

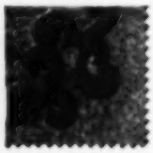
Today—Surprise Your Family with piping hot, crusty, golden-good corn bread! Use easy-blending Delrich as a flavor shortening *in* your favorite corn bread recipe ... serve Delrich as a delicious, nutritious spread *on* it! Taste how sweet and fresh a margarine can be ... taste Delrich!

Compare!—No other machine in all the world gives you all these **SINGER** advantages!

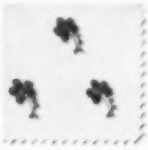
Only SINGER has all these ease- and convenience-features!

- Sews forward and back at the flick of a lever.
- True-stitching action at *any* speed, on *any* fabric.
- Tension regulated by numbered dial—no guesswork.
- Direct-route threading—quick, easy.
- Nonglare SINGERLIGHT with daylight reflector.
- Accurate, easy-to-adjust stitch length—from very fine to basting.
- Automatic bobbin-winder—winds bobbin *as* you sew, stops automatically when full.
- Quiet, dependable gear-driven SINGER* Motor.
- Guaranteed SINGER service and supplies always available from any SINGER SEWING CENTER coast to coast.

• **Spark Stitch**—lovely on housecoats, lingerie.



• **Bouclé Stitch**—for flannel dresses, jackets.



• **Cordunnet**—dainty on little-girl dresses.

• **Etching Stitch**—for gay designs, monograms.

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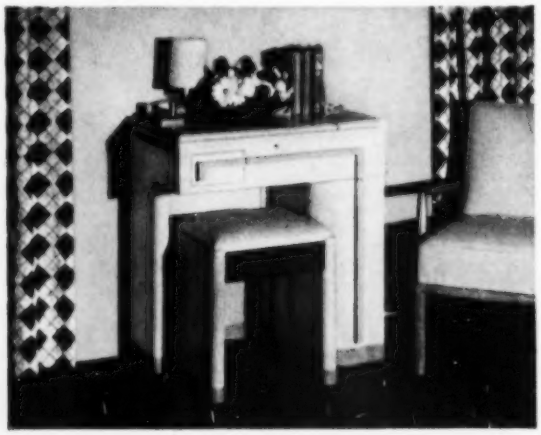

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Tidy up with

drawer dividers

By L. Leola Cooper

Isn't it a pleasure to open a dresser drawer and get the article you want without disarranging the whole drawer in a frantic search? Organized drawer space can save you time and energy if you go about it in the right way.

The first step in efficient drawer storage is to store elsewhere—or throw away—all unnecessary articles. Next, rearrange the articles you need and use. Store the most frequently used articles in the front.

After deciding on the most convenient arrangement, measure the space needed for each type of article. Make a paper pattern for drawer dividers by cutting a piece of paper the size of the drawer bottom. Mark on the paper the size of each compartment needed. Using this as a pattern, cut dividers to fit the drawer from any lightweight wood, corrugated paper, or very heavy cardboard. Don't make them too high or you will have difficulty reaching into the compartments for the articles you need.

Use lapping joint to join dividers. Sand the edges smooth and give a finished appearance with paint, varnish, or wallpaper covering. Masking tape may be used to bind top of cardboard dividers

Lap joint

Let article size determine the dimensions of drawer compartments. Make a pattern for dividers by tracing around articles

Sliding trays of lightweight wood cover less than ½ the drawer and are shallow so as not to interfere with the articles below

Trays are neat storage for small items. Strips of wood make runners to hold trays; are glued or screwed in position in drawer

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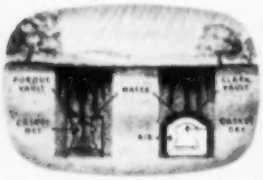
***THE CLARK GRAVE VAULT** is made of enduring metal. It is *scientifically designed* to keep water in the ground from reaching the casket. A vault improperly engineered cannot do this. Neither can one which is porous—through which water can seep.



FREE 28-PAGE BOOKLET, "My Duty." Tells those who must take charge "what to do." Write for your copy. The Clark Grave Vault Company, Department SF-3-2 Columbus, Ohio. Copyrighted 1952.

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Build them yourself, save time and dollars

Photograph: Babson

Orchard spray gun was mounted on the fender of tractor so one man can do the job. Camera-tripod swivel was used so that the spray gun can be pointed in any direction. Spray gun built by S. M. Babson, New York

Weltach

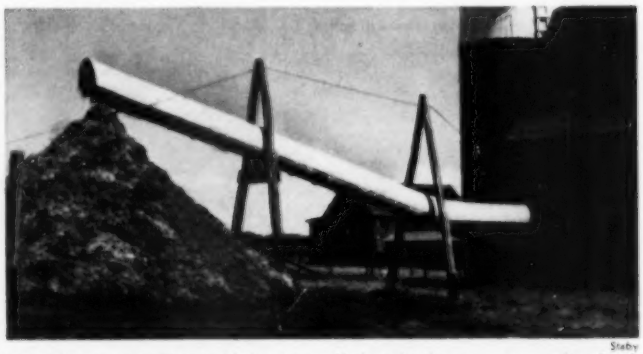
Downspouts are set in 4-inch well casings. The casings ➔ are 6 feet long and connect with a tile drain which carries the water to a drainage ditch. This downspout was installed by Ray Creelman, an Oakville, Iowa, farmer

Holden

Milk-can carrier was built from an old automobile wheel and two lengths of pipe. Metal hooks lift the can. Built by the McCoy Brothers, Lagrange County, Indiana

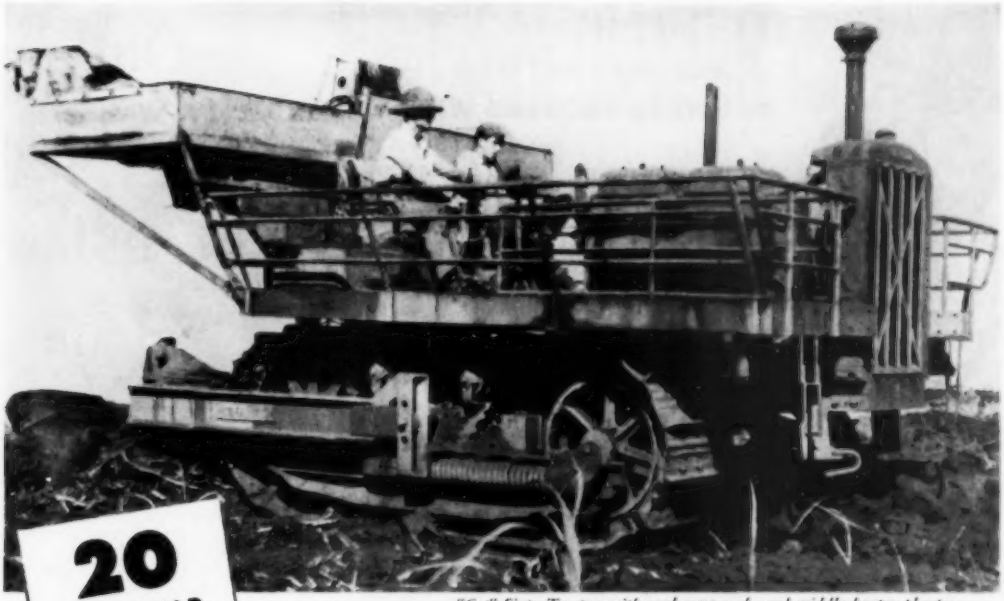
Weltach

Welding higher hitch to tractor drawbar lifts a harrow evener enough to prevent dirt from piling up in front of the hitch. Used by Glen Cuddebeck, Washington, Iowa



Staby

Barn-cleaner elevator is 40 feet long and allows the manure to pile up to a height of 20 feet. The extra height of the elevator allows Burt Jensen, North Collins, New York, to let the manure accumulate for almost two months from a herd of 45 cows. Manure is usually hauled to the fields immediately except during the busy season



"Cat" Sixty Tractor with seed cane racks and middle buster planter.

20 YEARS OLD ...BUT SHE'S DONE

100 Years of Work

for Oahu Sugar Co., Hawaii

Based on hours of service, this 20-year-old "Cat" Diesel Farm Tractor is 100 years old! Figure it this way: The old Sixty, owned by Oahu Sugar Co., Hawaii, has more than 80,000 hours of work to its credit. The average farm tractor works less than 800 hours a year. That means this "Cat" Farm Tractor has served the equivalent of 100 years of normal farm use!

- **Tough work** . . . 8-12-20 hours a day, 250 days a year! Right now the Sixty is on a 12-hour-a-day, 6-day week. H. L'Orange, Mgr., estimates it will be in service for another 10 to 15 years, operating 3000 hours per year.

- **Maintenance costs are low** . . . after 80,000 hours, this Diesel still is 60% original! Original crankshaft, camshaft, timing gears, fuel pumps and injectors, transmission and track rollers. It is now on its second set of tracks.

It's true that the Sixty sets a record unequaled *by any other farm tractor*, but many other "Cat" Farm Tractors have passed their 40,000 hours of successful work and are going strong. Look forward to the day when you power your farm with a "Cat" Diesel Tractor . . . the power that's good for 100 years! Have your "Caterpillar" Dealer help you plan your power future!

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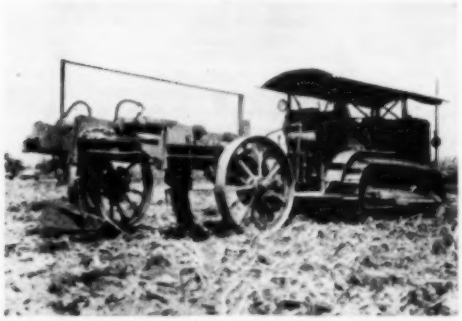

"Cat" Sixty Tractor with hydraulic remote-control plow.

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ARMOUR FERTILIZER WORKS

Outlaw those in-law glooms

By Constance J. Foster

Do you sometimes feel it would be easier to make a go of married life if your mother- and father-in-law didn't keep butting in on your affairs? Cheer up! Your in-law relationship need not be so seriously disturbing. More often than not, a strong friendship will grow if you will make an effort to understand what's involved and honestly do your share to ease the friction.

We used to believe that it took just two people to make a happy marriage. Our present knowledge of psychology proves that this number is *four too few*. Actually, it takes at least six—the young couple themselves, her mother and father, and his parents. Your lives didn't begin when you and your partner married. Your former lives didn't end then, either. The home you and your partner are making together is an outgrowth of two separate childhood homes, and in-laws have a continuing impact on your marriage even if they live an 8-hour B-36 flight away.

Whether you have stopped to realize it or not, you are indebted to your father-in-law and mother-in-law for all the heart-warming qualities and traits that make the One You Love a very special person in your life. To the extent that you are now enjoying kindness, sympathy, generosity, and thoughtfulness in your mate, you are reaping the harvest of their tireless efforts to bring up a fine son or daughter. In this respect, your in-laws deserve a heartfelt vote of thanks.

Here are a few ways to show it:

1. Don't start off with a chip on your shoulder or doubt in your heart. State of mind is half the battle here. Many in-law friendships are spoiled before you even meet. All the hateful mother-in-law gags and cartoons predispose a man or a woman to think she's a monster. Typing her in advance makes it impossible for her to prove she's just a human being like everyone else.

2. To make a friend you have to *be* a friend. Resolve firmly that you are going to find something new to like about your in-laws each time you see them instead of looking for more things to dislike. If you *do* like them, it's almost certain they will respond by liking you.

3. Remember that part of the responsibility for getting along smoothly with

your in-laws is up to you. Don't make them do all the adjusting or accept all the compromises. Family life is happier when every member takes his turn at giving. You show you are mature when you prove that you want to do your share and invest some of yourself in mutual projects.

4. Find a name for your in-laws and use those names. If you can't bring yourself to call your mother-in-law "Mother," maybe she'd like to be called by her first name. Ditto for a father-in-law. Ask them. If you make an effort to call them "Mother" and "Father," you may be surprised at how soon you feel more that way about them.

Whatever you do, don't call them "Grandma" and "Grandpa." They don't relish being classified as senile characters whose only remaining mark of distinction is having been made grandparents by you.

5. Ten to one, your in-laws have given you several of their prized possessions for your new home. Be enthusiastic about the gifts even if you aren't too keen about Victorian picture frames or Boston rockers. There's nothing like lots of approval to oil the squeaky hinges of the door that opens on good family feelings.

6. Keep in touch with your in-laws if you cherish family roots, even though they are far away. Write newsy letters often so they feel included in what you are doing. Send snapshots of the children and their pets, your home, and new car. Remember their birthdays, other family celebrations, and anniversaries.

7. If you honestly think you're good for the man or the woman you married, don't act apologetic about assuming your new place in his or her family. You don't have to court your in-laws' favor. If you approve of yourself and the job you're doing by your mate, your in-laws will approve of you, too.

8. Make your in-laws feel welcome in your home when they visit you. Mixing the generations teaches children how to get on with people of different ages and interests. Grandparents make good balance wheels in a home, too. If you're too tough on the younger generation, they supply the shameless doses of spoiling that every child needs now and then. If you tend to be too lenient toward your children, grandparents help to apply the dis-

[*Turn to page 86*

get your TRACTOR ready now!

If your tractor is using too much oil or losing power, chances are, new tractor piston rings now will save you a great deal of money. Thanks to revolutionary Hastings Chrome Rings, it is now practical and most economical to re-ring before re-boring or re-sleeving is necessary.

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A partial overhaul with Hastings Chrome Rings costs only about one-third as much as a major overhaul. Many repairmen and tractor owners report two replacement installations of Hastings Chrome Rings before re-boring or re-sleeving the cylinders.

get hundreds of extra hours

Over the past five years, thousands of tractor owners have proved Hastings Chrome Rings give many times longer life than conventional cast iron rings in re-bored, re-sleeved and in badly tapered cylinders. They provide hundreds of extra hours of peak performance and economical operation under every replacement condition.

Before your tractor needs a major overhaul, install Hastings Chrome Piston Rings. They stop oil-pumping, check cylinder wear, restore engine performance. It will pay you to replace with Hastings Rings in your car and truck, too.

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Tough on Oil-Pumping... Gentle on Cylinder Walls...

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(BREATH NOT AS SWEET, TEETH NOT AS CLEAN AS THEY CAN BE)

Ipana keeps your whole mouth cleaner, sweeter, sparkling!

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And don't forget your gums! Brushing teeth from gum margins toward biting edges lets Ipana's *active* cleansing foam help *remove* irritants that can lead to gum troubles!

Teeth, breath, gums—all three can cause "Tell-Tale Mouth." Avoid it with refreshing, minty Ipana Tooth Paste! See for yourself. Get a tube of Ipana today at any drug counter.

Ipana Tooth Paste

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NEW! For better cleansing, use the new DOUBLE DUTY *Multiône* Tooth Brush. Gives you over 1400 fine, springy-soft nylon bristles—plus the twist in the handle. 1000 dentists helped design it.

Those in-law glooms

[*From page 85*]

cipline that is required if they are to learn self-control.

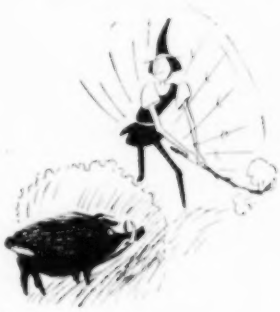
The modern emphasis on young marrieds' standing on their own two feet can be overdone. A couple often believe that unless they're strictly independent of their folks, they're not acting grown-up. Yet friendliness, willingness to give and take, and the ability to take help realistically when it is needed are just as much signs of maturity as independence—perhaps more so. Loyalty is a quality that never goes out of style.

Far from feeling jealous of your husband's feeling for his mother, or your wife's affection for her folks, you should regard such sentiments as a hopeful sign that you will have a happy family of your own. The fonder an individual is of homefolk and home ties, the more likely he or she will be to build a warm and richly satisfying family life in turn. Your best guaranty of happy married life is to choose a mate who grew up in a home where all the members remain fond of each other.

Moreover, studies of successful marriages list "approval of parents" as one of the most important factors in marital happiness. Their good opinion of you is a valuable asset in your marriage.

Include your in-laws in your pattern for living and loving. Behind the United Nations must stand the United Families if we are to have the kind of better world you want your children to live in. **END**

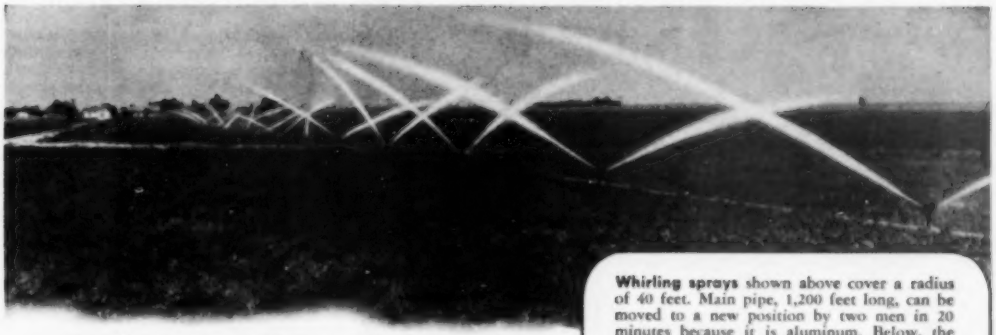
Why you say it!



No task of the modern farmer is so dangerous as one pushed upon husbandmen of medieval England. Noblemen spent a great deal of their time hunting, and drafted young men to beat for them. It was their duty to go through the woods "beating" game toward the hunters.

This involved great risk when wild boar were the quarry. With one sweep of his razor-sharp tusks, a big animal could almost sever a man's body. They lived for the most part in great swamps, covered with thick underbrush. To come across one in a patch of bushes amounted to almost certain death.

Consequently, the unarmed beaters frequently disobeyed orders and beat *around* the denser clumps of undergrowth rather than through them. Noblemen were quick to punish any man caught *beating around the bush*, and by the Sixteenth Century the expression had acquired its present meaning of evasion.—*Boyd G. Wood.*



Whirling sprays shown above cover a radius of 40 feet. Main pipe, 1,200 feet long, can be moved to a new position by two men in 20 minutes because it is aluminum. Below, the 85-h.p. motor that powers the pump gets Havoline, the motor oil that exceeds Heavy Duty requirements, stands up better and longer and keeps engines cleaner and sweeter running. Mr. C. A. Boyd is pouring in the Havoline.

Novel Sprinkler Irrigation System for Pasture Proves Highly Profitable

The novel aluminum pipe sprinkler irrigation system shown enables Mr. W. B. Price of Lubbock, Texas, to graze four to five times as many cattle between March and October as he could before installing the system in his Rocking A Ranch.

The water is pumped from a 110-foot well into 4,500 feet of underground cement pipe with surface taps at regular intervals for connecting two easily movable sprinkler lines of aluminum pipe, each 1,200 feet long.

In addition to operating a ranch, Mr. Price is the popular Texaco Man of Lubbock. He gives friendly service to many ranchers in his area. They know that *it pays to farm with Texaco Products.*

1,000 acres of lettuce, 200 acres in other truck crops, that's the farming operation at famed Chesholm Farms, Salinas Valley, California. "We have used nothing but Texaco Products in our tractors and other farm equipment for over 20 years," says Manager J. A. Tetrick (center), "that's why they perform so well, last so long." Texaco Man J. B. Nelson (left), driver for Gale Vincenz, delivers a bucket of Marfak, the lubricant that sticks to bearings better, lasts longer. Mr. Lopez is in "cat."

Mr. Kermit Noble (left) of Noble Brothers, who farm 600 acres near Lancaster, Wis., brings a smile to his daughter, as Texaco Man E. W. Terwilliger looks on. Bucket of Havoline Motor Oil is little girl's "high chair." Havoline is used by farmers the country over for it exceeds Heavy Duty requirements — ideal for Diesels or gasoline engines, keeps them clean, fights rust, ensures full power from every drop of fuel used.

Famous Rosegill Plantation, near Urbanna, Va., in continuous operation for over 300 years, gets the friendly, neighborly service of Texaco Man W. J. Revere — the tractors, trucks and cars get Texaco Fire-Chief, the gasoline with superior *"Fire-Power."* Plantation Manager Sam E. Bray (left), who has a fine herd of purebred Guernseys, gives Mr. Revere a friendly reception.

TUNE IN...Metropolitan Opera broadcasts every Saturday afternoon. See newspaper for time and station.

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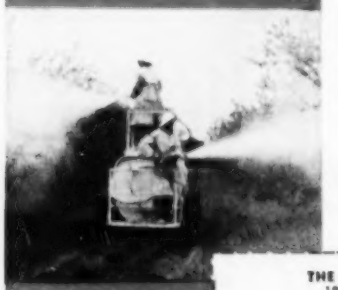
Texaco Petroleum Products are Manufactured and Distributed in Canada by McColl-Frontenac Oil Company Limited.

Fabulous 50 for fifty years

16 Spray jobs you can do
with a Myers Sprayer to increase farm yield



You can increase production per acre and soon pay for your Myers Power Sprayer through these applications, and all of them can be done with a Myers gun or boom sprayer: complete orchard spraying, including setting and thinning; disinfecting brooders, broiler houses, laying houses and farrowing pens; pest control in small grains; corn borer control; spittlebug control; cattle grubs and flies; sheep ticks; hog lice and mange; whitewashing; brush control; weed killing in hayfields, pastures, alfalfa, clover, barnlots, fence rows and along roadsides.

Why not make a list of spray jobs you ought to be doing on your farm, then talk it over with a Myers dealer or write us direct. That way you can see for yourself how a Myers Power Sprayer can earn added farm profits for you.

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Corn

[*From page 54*]

enough seedbed. In each case the cover-crop seeding is made at a time when the corn is shading the ground and taking up most of the normal moisture supply. Equipment for such work has been scarce or nonexistent on most farms. No really effective last-cultivation seeder has been marketed, and high-clearance machines and horses are now about equally scarce.

Agronomists and research-minded farmers have been experimenting with the wide-row spacing of corn for nearly 40 years—*after all, our present row spacing was set by the width of a horse.* Current interest is based on the relatively recent discovery that hybrid corn and increased fertility will permit corn rows to be widened from the traditional 40 inches to as much as 60, 70, or even 80 inches—*without great loss in corn yield!* In the wide spaces between the row, it is possible to provide a seedbed and plant the cover crop at that time and in such a way that it can get enough sunlight and moisture to grow abundantly.

Probably more experimenting has been done with these wide rows at the Ohio Agricultural Experiment Station at Wooster than anywhere else. The original objective of G. H. Stringfield and L. E. Thatcher, in charge of these tests, has been to find a way to let farmers grow a good crop of corn and still seed a wheat crop in the early fall. They found that the wide-row methods they used were equally useful in seeding cover crops in corn.

Their observations will interest you: "With a soil and season capable of producing 70 to 100 bushels of corn to the acre, there has been no perceptible loss from widening the row spaces to 50 inches; a loss of only about 4 bushels at 60-inch-row spacing; and a loss of less than 10 bushels at the 70-inch rows."

Try it yourself

When you plant your corn this spring, just double back over 8 rows for 50 feet so that these rows are planted at twice your usual rate of planting. Then when the corn comes up, cut out the second, fourth, sixth, and eighth rows entirely. This will give you four tracts 50 feet long and 72 to 80 inches wide, depending on the width of your regular planting. After the first cultivation, it will be easy to make a seedbed with a rake and to seed by hand at regular seeding rates one or more grasses and legumes. Early in August you can cut the weeds with a scythe. At harvest, weigh the ears from 48½ feet of rows 3, 5, and 7 if you used the 72-inch spacing, or 43½ feet if you used the 80-inch spacing; multiply times 50 and you will have the acre yield. See how it produces compared with the corn around your experimental area. In both the fall and the spring, watch the progress of the cover crop.

But the Ohio agronomists found also that in adverse weather and with lower fertility, corn and cover crop both suffered. If the potential yield was 30 bushels per acre, yields dropped as soon as the row spacing was increased above 30 inches. Everything in their work points to the fact that cover-crop seeding in corn will be most effective when fertility is high and moisture adequate.

For this same reason, it is still to be shown whether the wide-row cover-crop idea has any merit in the area farther west where rainfall decreases.

Last season the most extensive wide-row cover-crop experiments were conducted at Research Acres, an institution dedicated to solving soil and crop problems, in McLean County, Illinois. There corn breeders worked extensively to determine whether by use of special hybrids, corn yields could be sustained even with extra-wide row spacing.

> **When you dig another out of his troubles, you find a place to bury your own.**
> —*Anonymous*

The Research Acres experiments in Illinois proved, first of all, it is possible to raise 100-bushel-an-acre corn in an average season on good land with corn rows spaced 60 to 70 inches apart when interplanted with a cover crop. Also, there is the possibility of developing special hybrids capable of standing extreme crowding, so that 100-bushel yields could be secured even with 80-inch rows.

At Research Acres last season all of the common grains and legumes—wheat, barley, rye, ryegrass, sweet clover, Ladino clover, red clover, and others—were used in the wide-row experiments. All delivered stands ranging from satisfactory to excellent.

Although various methods and times of seeding were used, the preferred plan was done in June shortly after the corn was up and cultivated once, followed by one clipping of the weeds in early August.

Leon Steele, who directed the Research Acres wide-row experiments, says: "There's no question but that we shall need to develop special hybrids with unusual capacity to stand thick planting. Total plant populations must be maintained on fewer rows if yields are to be maintained with cover plantings. Developing those special hybrids is a job we can do. We have already done considerable work with good results because of the increasing farmer interest in thicker planting under regular corn-farming methods."

Of the wide-row method over-all, Steele observed: "Next year I believe we will concentrate on the 72-inch row in this type of work. With the right choice of hybrids, it appears there need be little if any loss of yield in 72-inch rows as compared with the usual type of planting. Another important point is that much of the present farm machinery can be adjusted to a 36-inch row or a multiple of the 36-inch row.

"For the possibilities of this approach," Steele continued, "we see the opportunity to produce a corn crop and a legume or grass crop in the same field each year. There is also the opportunity to establish a pasture or legume without use of a small-

[*Turn to page 90*

PATENTED CORALOX INSULATOR

AC SPARK PLUGS

ORIGINAL INSTALLATION ON

Nearly Half

OF ALL NEW CARS

Do you know that nearly half of all new cars are equipped with AC Spark Plugs, selected by engineers because of the superior performance ensured by *CORALOX*, AC's patented Insulator? And do you know that *CORALOX* can be of equal advantage to you in your farm equipment—tractors, trucks and machines? The tougher the service, the more you need *CORALOX*. Use ACs for real economy—surer firing under all conditions—longer spark plug life.

AC SPARK PLUG DIVISION GENERAL MOTORS CORPORATION

ARASAN® Seed Treatment Produces Better Stands That Make More Feed

The entire field above was planted with high-quality alfalfa seed in 1950. All the seed except for the strip through the middle was treated with "Arasan" seed disinfectant. This 1951 picture shows the difference.

Like earlier research, and like this farm example, 72 farm tests across the nation in 1951 have shown that "Arasan" seed treatment for grass and legume seed makes thicker, stronger, better-growing hay and pasture crops by control of seed rot and damping-off.

WHAT FARMERS SAY ABOUT "ARASAN"

Walter H. Bergman
Glencoe, Minn.

"COMES UP BETTER"

"My certified alfalfa treated with 'Arasan' came up far better and heavier than untreated. I can't afford to take a chance on a poor stand. I'll treat all alfalfa seed from now on."

Walter J. Pierce
Hutchinson, Kansas

"38% INCREASE"

"It paid to check my 15-acre test field of sweet clover. I couldn't see any big difference, but an actual count showed 38% increase in stand from seed treated with 'Arasan' over untreated seed."

Glen Moize
Pattonsburg, Mo.

"DOUBLES STAND"

"I planted alfalfa, red clover, timothy and brome mixture. The part treated with 'Arasan' had 53 plants per square foot to 27 plants for untreated seed. So now I always plant *treated* seed."

B. E. Bergman
Elgin, Ill.

"NO POOR SPOTS"

"Better growth with 'Arasan' means stronger roots and tops. My alfalfa treated with 'Arasan' produced a thicker stand than untreated seed, growing evenly across the field. The important field to me is one with plants on it."

Be sure all the seed you plant is treated with a Du Pont seed disinfectant

Use "Arasan" for grass, legumes and corn. For small grains, use "Ceresan," recommended and proved for over 20 years as the yield-improving seed treatment for wheat, oats, barley, rye and flax. Buy treated seed, or have your own seed treated when it's cleaned.

With all chemicals always follow directions for application. Where warning statements on use of products are given, read them carefully.

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

ARASAN®
Seed Disinfectant and Protectant

Corn

[*From page 89*]

grain crop; the chance to control erosion effectively, since the ground can be covered 9 months out of the year, and a chance to improve soil structure.

"There are problems, too. General use probably will require development of special farm machinery."

Cover crops in corn and the new wide-row approach are something you will be hearing and reading much more about in the future. More work needs to be done by the agronomist, the corn breeder, and the farm-machinery engineers before you will want to use the system on your entire corn acreage. Now is a good time for you to experiment on a limited scale to prove the possibilities.

Yes, corn *can* become a nurse crop, the highest-paying nurse crop in the whole farming business.

With corn farmers, experiment-station research men, hybrid-corn breeders, and farm-machinery engineers working together, extensive use of cover crops in corn for the Cornbelt can be made a reality in remarkably few years. It would bring to Cornbelt agriculture great new opportunities for more profitable farming, opportunities comparable to those ushered in by the general switch to power equipment or hybrid corn.

In next month's issue: "Keys to More Corn —Fertility."

Why you say it!

Our lusty English forebears well deserved their nickname, "Beef-eaters." Hard-fighting and fast-living gentry ate little bread, few fruits, and seldom any vegetables. Beef, pork, and mutton were frequently served at a single meal. Meat was usually roasted over an open fire and served piping hot. Anything left over was given to the servants and the dogs, and another roast prepared for the following meal.

When a guest overstayed his welcome, his hostess had a not-too-subtle way of giving him a hint. She simply served cold meat, usually a leftover shoulder, for a meal or so. This early method of *giving the cold shoulder* was extremely effective. Thick pieces of meat were seldom roasted through, and the nearer one came to the bone, the less desirable the meat. After eating cold shoulder for a few meals even the most persistent guest was ready to leave.—*Boyd G. Wood.*

Look What Chevrolet's Done to Win Your Approval!

Bright new car colors and smart new design make the new Chevrolet for 1952 more handsome than ever.

And for '52, color is brought *inside* the car to offer you color-matched interiors in all De Luxe models.

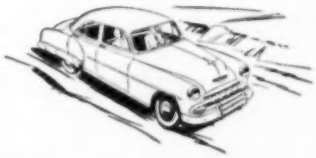
Performance is smoother, with new Centerpoise Power that "screens out" engine vibration and power impulses from all passengers.

And the *ride* is softer, with new Quick-Reflex shock absorber action to cushion bumps.

Smarter looking, smoother running, softer riding . . . and still the lowest-priced line in its field! See the new Chevrolet at your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

Interiors are brighter, more colorful

Chevrolet Royal-Tone Styling brings color *inside* the car. Interiors of De Luxe sedans and sport coupes are color-matched to harmonize with new exterior colors.



Engine vibration is "screened out"

Engine vibrations and power impulses are "screened out" . . . isolated from driver and passengers to introduce new smoothness. Engine rides cushioned in rubber.

Ride is softer, more restful

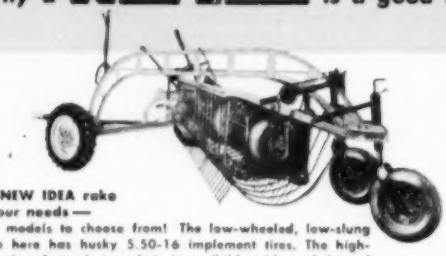
New Quick-Reflex shock absorber action permits a softer, smoother Knee-Action ride with reduced wheel bounce. On all kinds of roads, you travel in relaxed comfort.

MORE PEOPLE BUY CHEVROLETS THAN ANY OTHER CAR!

CHEVROLET *The Only Fine Cars* **PRICED SO LOW!**

Quicker Cure . . Less Bleach . . . Better Hay!

That's why a NEW IDEA is a good idea!



There's a NEW IDEA rake to meet your needs —
Two sturdy models to choose from! The low-wheeled, low-slung rake shown here has husky 5.50-16 implement tires. The high-wheeled version shown in top photo is available with steel rimmed or rubber tired wheels. Both are instantly reversible for tedding.

NEW IDEA's four-bar reel and special double-curved teeth gently fluff hay into a loose, uniform windrow that drying breezes pass through easily. With tender leaves turned carefully to the center of the windrow, the sun works on tough stems, does not bleach as it dries. That means better hay in the barn in a shorter time!

Builders of the first side delivery rake of this type, NEW IDEA has constantly improved rake performance. Latest features on low wheel rake are an enclosed roller chain drive, and oil-bath drive gears. Rakes are adjustable for heavy or light hay — and both are instantly ready for gentle, thorough tedding at the flip of a lever.

These superior raking features mean more protein . . . more carotene . . . more total digestible nutrients . . . feed that stock will clean up to the last spear.

NEW IDEA Mowers offer you faster, easier, better mowing. Two quick-hitch types to choose from. Fit most tractors.

You can get the full story on NEW IDEA rakes from your community NEW IDEA dealer. He'll tell you about the other tools listed on the coupon. Or send coupon for free literature.

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Check free folders you want:

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Name _____

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Watch hogs for

infectious rhinitis

By J. B. Herrick

Another disease has forced some swine producers out of business and is rapidly becoming a serious threat to many others. This disease is commonly called infectious rhinitis, and is also called atrophic rhinitis or dystrophic rhinitis. The word "rhinitis" means inflammation of the lining of the nostril.

One Iowa swine producer who had raised purebred Durocs for 20 years was wiped out of business in two years by this disease. Another large commercial hog raiser in Iowa purchased two boars from a reputable breeder. The use of these boars resulted in infection in better than half of the following pig crop. The disease exists in most of the Midwest hog-raising states, and in Canada.

Symptoms of disease. What is this disease and what should swine producers be watching for? In the first place, it is dangerous and is fast becoming widespread. The usual symptoms are sneezing and sniffling of young pigs. Sniffles that you might think due to dust—or as some breeders think, a slight cold.

As the pigs approach weaning age, the condition becomes worse and more violent. Gradually, the pig's nose becomes wrinkled and may twist to one side. Infected pigs are stunted and poor doers. Many of the pigs have violent nosebleeds due to the damaged lining of the nostril.

The death loss from infectious rhinitis is not very high, but the pigs are stunted and never gain or grow rapidly. Many of them need 10 to 12 months to reach market size.

Cause of rhinitis. The cause of infectious rhinitis is not definitely known. Efforts to reproduce the disease by passing infected material from diseased pigs to clean pigs have not been successful. However, it is thought that organisms other than the causative factor may be the main causes of stunting and poor growth. Pneumonias, arthritis, abscesses, and damaged nasal lining provide good places for organisms of this nature to grow.

Swine producers should be aware of the fact that this disease is not the same as the old "bullnose" we used to see. The ordinary type of bullnose is not infectious and often is seen in old pig lots where the pigs have to eat from mudholes and other filthy areas. Bullnose is seldom seen in pigs on clean ground.

No treatment known. There is no treatment known for infectious rhinitis—although many different drugs have been used. The one big precaution for all swine producers is to take extreme care that you don't bring the disease onto your farm. Watch where you buy hogs. Don't buy feeder pigs that have been through

public areas. Be on your guard in selecting breeding stock.

The mere fact that a hog doesn't appear to be diseased doesn't mean he isn't. The pig you are considering, even though he may look all right, may be a carrier. If you don't know if a herd is infected or don't know the owner, don't buy his boar or gilts. Also, don't lend your boar to a neighbor—he may unintentionally return the disease home with the boar.

Control program. The best way to rid your farm of this disease once your hogs have it is to sell all of them. However, if your herd is such that you hesitate to dispose of all of them, some swine producers have followed this plan:

1. Farrow all females in separate pens, keeping them there for several days. If any pigs show up that sneeze excessively, separate them from the rest of the pigs or sell them immediately. Be sure to sell the sow as soon as possible, also.
2. Dispose of all hogs showing wrinkled noses, twisting to one side. Don't save any of their litter mates for breeding purposes.
3. Clean and disinfect all troughs and waterers. Clean up all mudholes and move the pigs to clean ground.

Dispose of hogs. If by the above method you cannot get rid of the disease, you will be forced to sell all the hogs. Then, in a few months, purchase clean, healthy pigs and place them on clean ground with new or thoroughly disinfected feeders and other equipment.

This disease is serious and is a tremendous threat to swine producers, especially those selling breeding stock. In all cases, if the disease is suspected, have your veterinarian look at the herd to be sure it is infectious rhinitis. Watch for this disease in your herd—it can put you out of the hog business. **END**

Trailer speeds oats sowing

Here's an easy way to speed up your oats sowing this spring. Elmer Feazel and son Franklin, Washburn, Illinois, mounted their ordinary broadcast seeder on a 2-wheel trailer.

The trailer was built from the front axle and wheels of an old automobile. The 30-bushel hopper which empties into the seeder is from an old combine. One man can easily operate this outfit.—*Harry L. Spooner.*

Money Saving Offer Expires Mar. 31st!

Last chance to take advantage of the annual Phillips 66 Advance Order plan!

HERE'S HOW THE PLAN WORKS: Order your Phillips *66* Motor Oils, Gear Oils, and Greases *now* . . . before the end of March. Set a delivery date before May 31, 1952.

The single delivery saves us time, trouble and handling expense. So we can offer you these special benefits:

- **Money-Saving Discounts**
- **Discounts on Orders as Small as 15 Gallons**
- **Protection against Price Increases**
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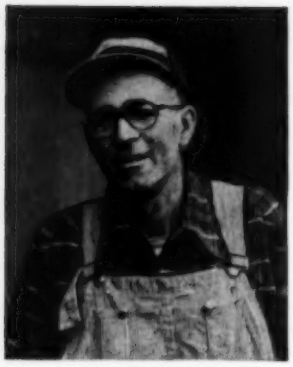
And above all, you get high quality Phillips *66* Products . . . products you can depend on to do the job and do it well.

See your Phillips *66* Tank Truck Driver. Get your order in now and save money on Phillips *66* Motor Oils, Gear Oils and Greases.

A GREAT NEW MOTOR OIL! Phillips *66* Heavy Duty Premium Motor Oil is available under the Discount plan. You can get all the special advantages of this great new motor oil—and save money at the same time. This motor oil is truly "Heavy Duty". . . can be used in your car, truck or tractor. It gives you a new high in Lubri-tection. It's designed to increase engine life—keep your machinery out of the shop and on the job.

Save money—save your machinery with Phillips *66* Heavy Duty Premium . . . everything you need in a motor oil.

Hear Rex Allen and the Sons of the Pioneers over C.B.S. See your local paper for time and station.



"WYETH'S PENSTIX®-SM FOR MASTITIS HELPS MAKE DAIRY FARMING MORE PROFITABLE"

GUILFORD, N. Y.—"Mastitis is one of those diseases a dairyman can never completely eradicate," Charles L. Goodwin, prominent dairyman here said recently. "Despite all precautions, cows will continue to have udder troubles." Mr. Goodwin milks 35 purebred Brown Swiss cows on his modern 260 acre dairy farm, and keeps mastitis to a minimum.

"The best thing to do," he says, "is to catch it fast. Then treat the injured or infected quarter with Wyeth's Penstix-SM. I've used Penstix-SM since last year, and I've found this product extremely effective. Results from treatment were noticeably faster than anything else I've tried."

Last year Mr. Goodwin used Penstix-SM on Royal Ruby, one of his prize Brown Swiss, who had a badly infected udder. Shortly afterward she was rated "Excellent" by the Brown Swiss Cattle Association.

"Penstix-SM certainly helps take the gamble out of dairy farming," Mr. Goodwin says.

CONSULT YOUR VETERINARIAN AS YOU WOULD YOUR PHYSICIAN

WYETH'S PROVEN PRODUCTS FOR MASTITIS CONTROL

- PENSTIX penicillin bougies or PENSTIX-SM, penicillin-streptomycin bougies (the combined antibiotic treatment for more severe infections) are available at your drug, feed or Animal Health Products store.
- For cows with dry quarters, many dairymen prefer WYETH PENICILLIN OINTMENT or PENICILLIN-DIHYDRO-STREPTOMYCIN OINTMENT, in handy easy-to-insert tubes. Write Wyeth for FREE mastitis booklet.

WYETH Incorporated, Philadelphia 2, Pa.

Wyeth ®

Dairy-barn ventilation pays off

By Arthur H. Hempker

The question of whether or not a mechanical ventilation system in the dairy barn is a paying proposition has kept many dairy farmers from installing one. Although the forced-ventilation idea is no longer new, some farmers still are skeptical of results. But, according to the farmers who have installed mechanical ventilating systems, the results are good. Many of these farmers say they now wouldn't be without the system. However, before we tell you how mechanical ventilation pays off, you'll probably want to know *why* you need it.

The main reason good ventilation is needed in your dairy barn is that old Bossy is a miniature heating plant and moisture producer combined. The heat given off by your dairy cows will keep a reasonably tight or insulated barn warm. In fact, they probably keep your barn too warm in the summer. You probably don't realize, however, that 30 cows will give off about two barrels of moisture every 24 hours through their breathing.

Now, when you get warm, animal-heated air in contact with two barrels of moisture, you've got a problem. If the moisture stays in the barn, the barn is going to be mighty damp. It's a well-known fact that stale air and damp barns are very real contributors to tuberculosis and other diseases in cattle. Even a new barn will soon become damp and musty unless it is properly ventilated with plenty of fresh, moving air.

A cow's feed-and-water consumption drops off quickly when the same air is breathed over and over again. A big intake of feed and water is required for large-volume milk production. Cows give less milk when sudden changes in temperature occur. Therefore, it pays to keep an even temperature in your barn. A forced-air system of ventilation will do a good job of maintaining the right temperature and humidity for greatest milk production.

Your dairy-barn equipment will last longer, too, in a ventilated barn. Excessive moisture causes rust and rot in stalls, stanchions, pens, and in the barn itself. The repair bills saved by keeping a well-ventilated barn are an extra saving you make by installing a forced barn-ventilation system.

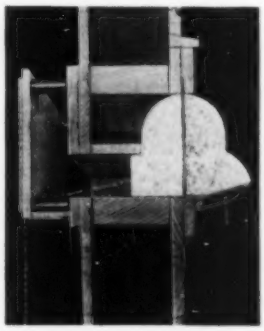
Moldy feed and hay caused by too much moisture are ended by proper ventilation. Reducing the humidity also removes many of the bad odors in dairy barns. Moisture on floors will evaporate quicker and the problem of windows' and doors' freezing shut is eliminated. In fact, forced ventilation improves the working conditions in your barn.

For best results, it's important to install a forced-ventilation system correctly. Your barn ventilator outlet should be placed on the wall or ceiling, away from the prevailing wind. Keep the ventilator at least 10′ from any corner. If the ceiling is more than 7′ high, install the fan about 3′ from the floor. If the ceiling is 7′ or less, mount the fan near the ceiling.

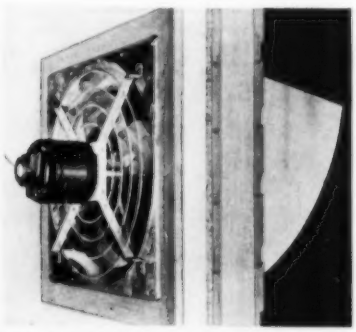
The fan should be big enough to handle 60 cubic feet of air per minute per animal. In dairy barns where 30 animals or less are housed, one large fan is enough. In dairies where more than 30 animals are housed, more than one unit may be necessary.

Where barns are tight and well built, intakes are necessary for proper air distribution. Intakes should contain about 60 square inches and no intake should be closer than 10′ to the fan. Intakes should also be kept away from corners, and air

[*Turn to page 96*



In tightly constructed barns, it may be necessary to install intakes similar to the one in above drawing



This drawing shows an electric barn-ventilator installation. Hood on outside prevents drafts. Damper on inside closes when fan stops running

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KEEPS BACTERIA COUNT LOW!
JOY washes away all milk slime and grease—discourages breeding places for harmful bacteria! Promotes a bacteria count that will pass any State's requirements!

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No soap flakes, granules, or powders in the world can match JOY's ability to keep milkstone from forming. And remember—just this milkstone can rob you of 1/5 of the valuable butterfat you deserve!

Already dissolved—gives instant suds! . . . No caking as with packaged soaps! . . . No mess when you splash, no more soggy soap cartons to fall apart! No spilled powders to clean up afterwards! . . . No waste from guesswork, because every drop is measured accurately!

Yes, here's the newest way to clean cream separators, milking machines, cans, pails and strainers cleaner, faster, more economically than soap powders in hardest water!

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JOY—with a new exclusive ingredient—concentrates more dishwashing, grease-cutting power than any soap powders or flakes known!

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CLEAN DAIRY EQUIPMENT THE JOY WAY!

Cleaning Cream Separators—Shut off power when milk has left supply tank. Rinse supply tank with warm water, shut faucet . . . Add enough warm water or skim milk over float to clear cream from machine.

Pour full pail of warm water into supply tank. Add 2 capfuls of Joy. Let solution run through separator while bowl empties. While solution runs out, brush supply tank inside and outside with soft brush—also cream spouts, frame . . . Pour emptying solution into large pail.

Dismantle machine . . . Open bowl, remove disks. Clean disks by running brush through hole. Shake disks apart for inspection . . . Wash bowl parts . . . Pour hot water over parts placed in supply tank, allow to run through spouts . . . Drain—spreading disks apart.

Cleaning Milking Machines—After each milking, flush unit with 1 pail of hot Joy solution. Use 2 capfuls of Joy to a pail of water.

When all Joy solution is drawn into milk pail, remove rubber seal from pail head and wash seal and pail head in suds with a soft bottle brush. Then brush outside of unit with Joy suds. Shake solution around inside milk pail to complete washing; then empty pail.

Reassemble unit and flush-rinse with very hot water. Then hang milk pail, pail head, and test cups up to dry. Just before next milking, flush out milker with clear, hot water.

Cleaning Cans, Pails, Strainers—Wash in hot Joy solution with soft brush. Use 1 to 2 capfuls of Joy to a pail of water.

Rinse with very hot water, allow to drain dry. Everything will be spotlessly clean.

ALWAYS KEEP JOY ON HAND —Buy it by the Case!

Make your home look *NEW* with Johns-Manville *Smoothgrain* Asbestos Siding . . .

The* HOME IDEA BOOK *shows how you can restyle your house in color inexpensively . . . cut upkeep costs. Dozens of other remodeling ideas, too!

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Enclosed find 25¢ for which send copy of your new "HOME IDEA Book."
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Dairy-barn ventilation

[*From page 91*]

should be directed at the barn ceiling.

Buildings should be tight, especially the wall where the fan is installed. In cold climates, some insulation in the walls is necessary. Cold walls will cause moisture to condense. Ceilings of dairy barns should be insulated, but if hay is stored over the dairy barn, the hay probably will be enough insulation.

Windows should be tight, and in the colder climates, should be protected by storm windows if you want to keep condensation low.

The most satisfactory control for the barn ventilator is the automatic system. The most common automatic control operates on temperature. A temperature of 40 to 50 degrees is ideal, so set the thermostat between these two points.

The amount of moisture absorbed in the air varies directly with the temperature. For example, if the day is fairly warm and the temperature in the barn is high and also carries a lot of moisture, the barn ventilator will run continuously as long as the temperature is high. In this way, the greatest amount of moisture is carried out of the barn. As the temperature is reduced, the ability of the air to carry moisture is decreased. So if your ventilator is set at 45 degrees, it will shut off when this temperature is reached.

Some barn ventilators are controlled by a double thermostat and the fan is driven by a two-speed motor. The second speed of the fan exhausts less air and as the temperature in the barn drops, the fan automatically is reduced to the slow speed. In this type of barn ventilation the fan usually runs continuously.

When you buy a barn ventilator, be sure the motor is well protected. Sometimes the motor may become overloaded due to back drafts, frozen equipment, or just plain dry bearings. Be sure motors are protected with overload switches so that the motor is turned off in case of overloading. This precaution will save expense and protect you from burned-out equipment.

The average barn-ventilating system will cost approximately 75 to 100 kwh per month to operate. The installation and operating costs are paid back many times with more milk in the pail, better health for the cows, and better working conditions for you. **END**

SUCCESSFUL FARMING

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They're bales that can take rough handling, too. They elevate, load, and store compactly, without buckling or breaking.

And they're *easy* to handle. Unroll them down the feedway or simply feed them whole. Weather-resistant, they are perfect for outdoor feeding.

Have an easy-operating ROTO-BALER of your own, ready to roll when hay and weather are just right. Arrange with your A-C dealer now for the baler you can bank on . . . your own ROTO-BALER.

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This beats loading bales by hand! The Allis-Chalmers Bale Loader attaches minutes-quick to the WD, WC or C Tractors. Picks up rolled bales lying at any angle. A sturdy, durable loader.

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"You mean my $100,000 farm *may have to be sold at a sacrifice*--to pay taxes?"

Bankers Life Man: "Yes sir, Mr. Carson, that's exactly what I mean."

Mr. Carson: "I've worked hard all my life to leave my family well provided for in case anything happens to me. I just don't get it."

Bankers Life Man: "All right, Mr. Carson. Let's take the case of M. C. W. This is an actual case from our files. M. C. W. died suddenly. His estate was valued at $119,850. Here's what it cost to settle it."

Debts	$15,076
Income Taxes Due	1,716
Administration Expense	2,119
Attorney's Fee	2,028
Executor's Fee	2,028
State Inheritance Tax	3,235
Federal Estate Tax	9,405
Total Costs	$35,607
Cash in Estate	9,819
Cash needed at once	$25,788

Mr. Carson: "Do all these amounts have to be paid at once?"

Bankers Life Man: "Yes, sir. There is no way to avoid it."

Mr. Carson: "Suppose the place had to be sold quickly. It isn't always easy to get a good price for a farm in a hurry."

Bankers Life Man: "That's true, and it's another great risk you run if you are not protected."

Mr. Carson: "You mean there's a way to avoid all this so I don't have to worry about my family losing the place?"

THE ANSWER IS YES!

There *is* a Bankers Life Plan—one that every farm owner should know about. A plan that provides protection against such tragic loss. Unless you know exactly what your own situation would be, today isn't a minute too soon to find out. Mail the coupon below. Get the facts. Get absolutely free the booklet that will show you how to prevent this happening to you!

1½ BILLION DOLLARS INSURANCE IN FORCE . . . POLICYHOLDERS FROM COAST TO COAST

BANKERS *Life* COMPANY

Home Office: DES MOINES, IOWA • ESTABLISHED 1879

Branch Offices in Principal Cities from New York to Los Angeles

©1952, BANKERS LIFE COMPANY

This FREE booklet tells all about it!

BANKERS LIFE COMPANY, Dept. SF-32
Des Moines 7, Iowa

Please send my FREE copy of your booklet "How To Avoid The Risk Of Forced Sale To Settle Estate Taxes."

Name _____

Birth Date _____

Address _____

THE Farm

By Gus Larson

Are acorn muffins really tasty like hot corn or nut bread? Can cut flowers be preserved by freezing? Can queen bees be artificially inseminated? If you're curious, and you want to try that acorn-muffin recipe, let's start.

Score 5 points for each correct reply. If you score (a) 90 to 100—excellent. (b) 75 to 85 points—very good. (c) 50 to 70 points—good. (d) 30 to 45 points—below average. (e) 25 points or below—sorry.

1. Which bull would you pick to sire your feeder cattle? (a) Bull Herman the First which gained rapidly from weaning time to 850 pounds. (b) Bull Herbert the Second which gained slowly to weight of 850 pounds.

2. The sweetest commercial honey (and with a delicate spicy flavor, too) is made from tupelo trees which grow in (a) Florida and Georgia (b) Michigan and Indiana (c) Maine.

3. Why does Bossy sometimes hold back her milk? Is it because she is (a) lonely and dejected (b) angry, nervous, or exhausted (c) just plain sleepy?

4. Which of the following illustrious Americans does Princess Elizabeth number as one of her ancestors? (a) General Robert E. Lee (b) Benjamin Franklin (c) Henry Clay.

5. George Washington never lived in the White House. When president, where did he live? (a) Mount Vernon (b) Philadelphia (c) New York.

6. Mrs. Helen Lund said: "When chickens don't get enough sunshine, they eat and peck feathers." Mr. Lund argues: "Chickens eat feathers because they lack protein in their feed." Who is right? (a) Mrs. (b) Mr.

7. Cut flowers year round? A method for preserving and freezing cut flowers has recently been developed by (a) Cornell University (b) Department of Agriculture (c) University of Illinois.

8. He shot the curls off pigs' tails while drifting down the Ohio and Mississippi rivers on a flatboat. Who was this sharpshooter? (a) Mike Fink (b) Mark Twain (c) Huck Finn.

9. Properly prepared, acorns can be very tasty. For example, acorn muffins are nutritious and taste like a mixture of corn meal and nuts. Statements are (a) true (b) nonsense.

10. Give feeders all the hay they will eat but no grain for the first day or two. This is (a) good advice for the feeder (b) poor advice.

Quizbox

11. A tractor and 2-bottom plow should turn 10 acres a day. A team of horses and a walking plow should plow (a) from 1 to 1½ acres a day (b) from 4 to 5 acres a day.

12. There are three American plants which catch and eat insects. One of these three plants is (a) the pitcher plant (b) sunflower (c) waterlily.

13. Queen bees are now artificially inseminated in much the same way as are dairy cattle. Artificial bee insemination requires use of (a) delicate instruments (b) chemical bath.

14. Calves with wide muzzles, short necks, and broad chests are not necessarily the ones that make the most rapid gains. (a) true (b) false.

15. Chickens can get heart trouble, too. A shortage of vitamin B_1 or potassium in their rations is often a cause of such trouble. (a) true (b) false.

16. Berry and fruit stains should be removed from fabrics at once. For best results use (a) cold water (b) soap and cold water (c) boiling water.

17. In 1900, 23 million farm people fed a total United States population of 75 million. In 1950, our population of 150 million was fed by (a) 40 million farm people (b) 23 million farm people (c) 10 million farm people.

18. Two new hardy strawberries that do very well in the Great Plains states are called (a) Early Cheyenne and Cheyenne No. 2 (b) Kansas Sweetheart and Kansas Beau.

19. A doctor can detect hardening of the arteries very early by (a) looking into a person's eyes (b) examining the throat (c) listening to one's heart.

20. How much water will fattening calves drink each day? Would you say about (a) 6 to 8½ gallons (b) 2 to 4 gallons (c) 10 to 12 gallons?

Answers on page 100

How do YOU Judge a Good Tractor Tire?

Don't you ask yourself these questions — Is every lug angled for maximum power? Are they high enough? Long enough? Are they working together to do the best job in your soil? The great new Super Power Bar measures up on all counts — examine them for yourself right here!

1. **Judge** the height of Super Power Bar's lugs. Higher bars bite through soft surface to solid ground.

2. **Judge** Super Power Bar's exclusive bridged open center. Self-cleaning bars that snap out dirt and mud!

3. **Judge** the longer bars designed to give a bigger bite in sandy soil, cover crop spread traction over a greater area.

4. **Judge** the 3-point bracing of each lug prevents "lay-back", makes Super Power Bar wear longer.

Prove it to yourself — See the new Super Power Bar at your GILLETTE Dealer's today!

A Bear for Wear

GILLETTE *Tires*

DIVISION OF UNITED STATES RUBBER COMPANY

See what a G-E Freezer will do for your family!

No more last-minute shopping, no more cleaning and peeling of food just before mealtime. You can prepare dinner in half the time when you own a G-E Food Freezer.

Enjoy your fish and game whenever in the year you want, depending, of course, on game laws. No more feast or famine when you own a G-E Freezer.

You can keep ice cream and other frozen desserts on hand at all times when you have this spacious freezer in your home! You can plan a party for the children—or a full-course dinner for guests—*on the spur of the moment!*

Model Illustrated NA-11. Trim and specifications subject to change without notice.

Many G-E Freezer owners say they save $120 each year!

Not only is a General Electric Food Freezer a welcome addition to any home, but many owners say that their investment is helping to pay for itself. *Many report savings of $120 and more each year!*

Many, many convenience features!

The G-E Freezer has three convenient baskets, one wide enough for large pies. The lids are counterbalanced to permit fingertip lifting. It's equipped, too, with locking latch, interior floodlight, temperature-indicating light and Fiberglas insulation.

Think what a wonderful investment a G-E Freezer is for your whole family. Then see it at your General Electric dealer's. General Electric Company, Louisville 2, Kentucky.

It's as dependable as a G-E Refrigerator!

You want the food freezer you buy to give excellent service year-in and year-out. The G-E Freezer has the same dependable sealed refrigerating system as that used in G-E Refrigerators.

GENERAL ELECTRIC

Answers to farm quizbox

[*Questions start on page 98*]

1. (a) is correct. Herman the First would sire the best cattle, according to U.S.D.A.

2. (a) is correct. Tupelo trees grow in swampy areas of Florida and Georgia, writes George P. Walton in the *U.S.D.A. Yearbook*.

3. (b) is correct. Other reasons for cows' holding back their milk include: strange milkers, indigestion, fear, chill, and strange surroundings.

4. (a) is correct. George Washington is also an ancestor of Princess Elizabeth.

5. (c) is correct. George Washington lived in New York.

6. (b) is correct. Hens often eat feathers when they do not get enough protein.

7. (a) is correct. Blooms can be preserved by sealing them in cellophane and storing in 31-degree temperature.

8. (a) is correct. Mike Fink is the legendary character who shot the curls off pigs' tails.

9. (a) is correct. Elbert L. Little, Jr., United States Forest Service, is our authority. Write this column for Mr. Little's recipe.

10. (a) is correct. That's feeding advice from U.S.D.A.

11. (a) is correct. Turning from 1 to 1½ acres is a good day's work with a walking plow and team.

12. (a) is correct. Pitcher plant (also sundew and Venus'-flytrap) catches and eats insects.

13. (a) is correct. Newly perfected instruments make artificial insemination of queen bees possible.

14. (a) is correct. U.S.D.A. reports feeding tests show that ability to gain rapidly is in the strain.

15. (a) is correct. Chickens get the same kinds of heart trouble that people do.

16. (c) is correct. U.S.D.A. textile chemists advise use of boiling water to remove both fresh- and cooked-fruit stains.

17. (b) is correct. There were 23,577,000 people living on farms in 1950—almost the same number as in 1900.

18. (a) is correct. These two new strawberries were developed by U.S.D.A.

19. (a) is correct. Doctors can detect hardening of arteries by examining eyes.

20. (a) is correct. Fattening calves will drink from 6 to 8½ gallons of water per day. **END**

Do you have a favorite housekeeping short cut? *Successful Farming* pays $5 for each suggestion published. Send your hints to: All Around the House, *Successful Farming*, Des Moines 3, Iowa.—Editors.

It's New...

THE FAR MORE POWERFUL FERGUSON "30"

BIGGER... in power... in performance... in economy!

Drive it! You'll see what we mean!

You'll be thrilled by how easily it pulls three bottoms in almost any soil . . . by the way it handles *every* job on your farm from the heaviest to the lightest.

As for economy, ask any Ferguson "30" owner!

He'll smile with pride as he talks of his savings in gas, oil and service. "Compare price tags, too," he'll tell you, "for tractors of comparable capacity."

Go see your friendly Ferguson Dealer today. Ask him for a "Showdown" demonstration of the Ferguson "30" . . . the tractor with the one and only Ferguson System. Find out how it will meet *more* of *your* needs *more* of the time.

Building a better world through better farm mechanization is the business of Harry Ferguson, Inc., Detroit 32, Mich.

Copyright 1952 by Harry Ferguson, Inc.

Meets MORE of the needs of MORE of the farmers MORE of the time!

HOW TO BUILD FAST TO *last!*

Here's the board that makes farm building and repair a *snap*. Yes, literally, Ruberoid Stonewall Board can be scored and *snapped* off with a clean, straight edge . . . much faster than by sawing it.

That's only one of its time-saving, cost-saving qualities. The big 4 x 8 Stonewall sheets go up fast, take nails readily, and never need paint.

Ruberoid Stonewall Board is about the best all-round farm building material ever developed. Made of asbestos and cement, Stonewall is strong, rugged, weatherproof, fireproof, rat-proof and rot-proof. Although structurally rigid, it is bendable enough to form Gothic roofs. Because of its smooth surface, it is easy to keep clean, always looks good.

More and more farmers are using Stonewall Board to build a wide variety of improved farm structures — barns, milk houses, granaries, poultry houses, range shelters, farrowing sheds, self-feeders, etc. And, for residing old barns there's nothing like it. Just nail Stonewall right over the old siding to give it new strength and new beauty.

For dozens of utility jobs, keep a supply of Stonewall on hand. See your building supply dealer, or send for descriptive literature on —

Stonewall Board

The RUBEROID Co., 500 Fifth Avenue, New York 18, N. Y. SF-3

☐ Please send me your descriptive folders on STONEWALL BOARD, "Build Fast To Last . . ." and "Armor for the Farmer."

☐ Also, I would like name of nearest Ruberoid dealer.

NAME _____

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TOWN _____ STATE _____

The RUBEROID Co.

ASPHALT AND ASBESTOS BUILDING MATERIALS

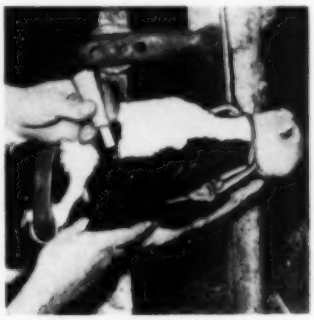
Dehorning

By Dr. J. W. Bailey, D.V.M.

Getting rid of horns on cattle is a year-round ordeal on most dairy and beef farms. Dehorning can get the farmer into trouble unless he is on the lookout. Here are a few precautions the farmer should take to avoid dehorning trouble.

Older animals should be dehorned either in the early spring or late fall when there are no flies. Calves can generally be dehorned the year round with little danger of trouble. However, when flies are bad, it's a good idea to daub the wounds with pine tar every 2 or 3 days to repel insects. There also are several screw-worm-fly repellents which can be used for this purpose.

As a rule, the younger the calf is dehorned the better. However, you can get into trouble at early ages, too, especially if caustic potash is used. It's not uncommon to see young heifers or cows blinded as a result of a poor job of dehorning. If caustic potash (see picture below) is used,



1 to 2 weeks: Use caustic potash when horn buds are tender. Clip hair around bud, apply potash in circular motion. A ring of petroleum jelly prevents the caustic liquid from running into eyes, causing blindness

Up to 4 months: A "scoop" dehorner removes horns on calves too old for caustic potash. Rest head on floor, place "scoop" over horn with cutting edges at base of horn. Press down firmly and close handles

There is now a safe way of performing this operation for every age. Pick the way you like best—but dehorn

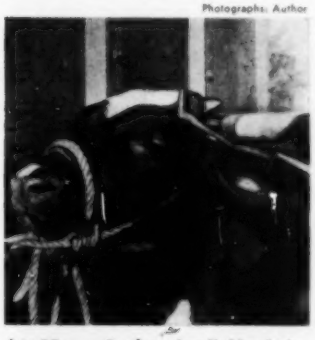
a ring of petroleum jelly or lard around the treated area will reduce danger. Also, keep young calves out of the rain and avoid crowded places.

Calves usually don't bleed seriously following dehorning, but it's a different story with older animals. Don't use flour, cobwebs, or dust to stop the bleeding. Such materials are loaded with germs and can cause serious infection. Rather, use clean pliers to grasp the ends of the bleeding vessels and break them off in the flesh to prevent further bleeding. Or, the bleeding can sometimes be stopped by tying a binder twine or small rope (see picture, page 104) around the poll below the cut. Such tourniquets shouldn't be left on for more than a couple of hours.

Dehorning usually leaves large holes in the heads of older animals, exposing the sinuses. These cavities can be covered with cotton or ordinary strainer pads to keep out dirt and chaff.

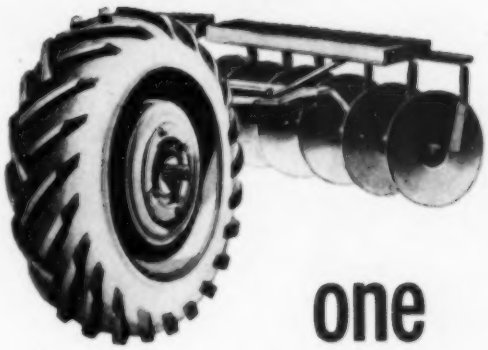
Up to 4 months: Use electric dehorner or a heated, circular-shaped iron to burn around base. Hold iron over horn until copper-colored ring shows completely around base. Horn will drop off a week or so later

Photographs: Author

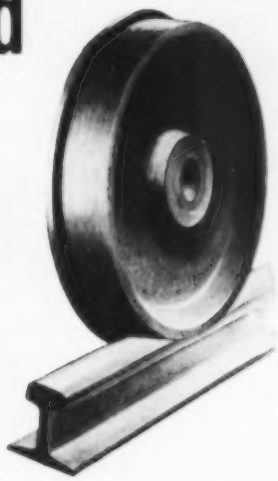


4 to 10 months: Long-handled hoof trimmer can also be used for dehorning. Tie head firmly and place trimmer over horn at desired angle. Bring handles together to remove horn. Trim the loose skin with knife

More on page 104



one good turn deserves another...



and gets it!

The wheel turns and the tractor moves across the field – spring plowing has begun again. And, with the turn of the tractor wheel, the nation's farmers once again begin producing the abundance of food, feed and fibre so necessary to national strength and well-being!

But this abundance depends, too, on another kind of wheel – equally vital. That's the wheel of the railroad freight car! These wheels bring the farmer his equipment . . . fertilizer . . . supplies . . . farm machinery. And they deliver the produce of his land and labor to markets far-distant from his farm.

Yes, it's the railroads that do the low-cost, basic transportation job upon which our nation's agricultural system – indeed our whole economy – depends. And when you consider that the railroads carry *more* freight *more* miles than all the other forms of transportation put together, it's evident that no other form of transportation could begin to do this basic job.

Working together, the farmers and the railroads provide the food America needs to stay prosperous . . . to stay strong.

ASSOCIATION OF AMERICAN RAILROADS

WASHINGTON 6, D. C.

You'll enjoy THE RAILROAD HOUR every Monday evening on NBC

Will they inherit socialism?

You wouldn't want to leave a socialistic America to your children. Most Americans wouldn't.

But you may—without realizing it. For socialism wears many false faces. You can't always tell it at a glance.

It's socialism, for example, when the federal government takes over for keeps the rights and responsibilities of its citizens on any pretext.

It's socialism when the government steps into and takes over a business or industry.

It's socialism when people urge you to give up the freedom to run your own life and let the government run it for you.

Today in America, there are people who would like to see an all-powerful federal government own and operate our railroads, our medical profession, our electric light and power companies and other businesses and services. Perhaps they're not all socialists, but what they suggest is socialism—even though they never call it that.

And they'll have their way unless you act now. Here's what you can do: Start thinking of your future and your children's. Exercise your rights as a citizen. Discuss this danger with your friends and neighbors. Use your ballot wisely. And above all, learn to recognize socialism behind the many false faces it wears.

• • • •

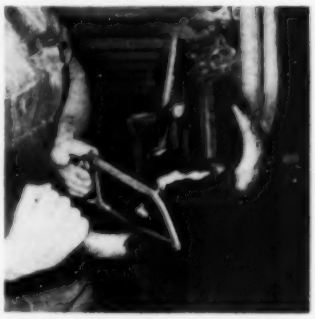
America's *business*-managed, tax-paying ELECTRIC LIGHT AND POWER COMPANIES* publish this advertisement to expose some of the many disguises behind which socialism operates in this country.

**Names on request from this magazine*

- "MEET CORLISS ARCHER"—CBS—*Sundays—9 P. M., Eastern Time.*
- Look for the "ELECTRIC THEATRE" on Television.

Dehorning

[*From page 103*]



Yearling and older: Saw method is painful, so head must be held firmly. A veterinarian can block the nerves, making it painless. Remove a ring of skin 1 inch wide with the horn to prevent later growth

Yearling and older: Use clippers for a fast, clean cut. Sharp blades prevent crushing. Cut horn low enough to remove ring of hair. A local anesthetic makes it painless

How to stop bleeding: Tie small rope or twine tightly around poll, remove in 2 hours. Strainer pads keep cuts clean. END

If you're interested in hogs, you'd enjoy meeting and talking about hogs to *Clem Ledoux.* He's enthusiastic about his own breeding and production methods, and especially the success he has had with his Yorkshire-Chester White cross. His pigs average 3½ pounds at farrowing—many weigh more than 4 pounds—and he seldom loses any. He has sold as much as 100,000 pounds of pork in a single year. He's active in community life, too . . . is a director of the new Buena Vista County hospital . . . an assistant 4-H Club leader . . . and director of the Storm Lake baseball team.

"Our Profit on Each Hog Averaged $24.34 When we Fed Them With MoorMan's"

—says Clem Ledoux

"The pig in this picture is a 20-day-old fall pig from a Yorkshire-Chester White cross—and from the day the litter found Pig Mintrate in their creep, I've never seen pigs grow so fast," says Clem B. Ledoux, Buena Vista County, Iowa, hog raiser.

"We've found if we feed the sows MoorMan's Mintrates and Minerals, they farrow big litters of exceptionally strong pigs. My pigs average 3½ pounds at farrowing, and have good bone structures because their little legs are as strong as a man's fingers. We're now marketing 226 hogs from 26 spring litters—almost an 8.7 average.

"Pigs are started on Pig Mintrate, then switched to Hog Mintrate at 75 pounds. As a result, it cost us only $9.96 to produce a hundred pounds of pork."

Hogs dress out 72%. "On September 14 we sold the first 115 hogs from spring litters. They averaged 214 pounds in 166 days. The market was $21.40, but we received a 35-cent premium, or $21.75. The total premium amounted to $86.13—and it was well worth it because the *packer told us the hogs dressed out 72%!*

"Here are the exact feed costs for the 115 hogs:

Pig Mintrate	$ 197.80
Hog Mintrate	245.70
MoorMan's Special Hog Minerals	27.80
Corn (927 bu. @ $1.60)	1,483.20
Oats (583 bu. @ $0.95)	553.85
Grinding cost	44.90
Total	$2,553.25

Gross Profit $24.34 per Hog. "We received $5,352.67 for the hogs—or a gross profit of $2,799.42, or $24.34 per hog. The feed cost was $20.20 per hog, or $9.96 per hundred pounds of pork produced."

Ask your MoorMan Man how you, too, can make more profits from hogs by feeding the MoorMan Way. If no MoorMan Man calls, write Moorman Mfg. Co., Dept. R2-3, Quincy, Ill.

MoorMan's

(Since 1885)

MAKERS OF PROTEIN AND MINERAL CONCENTRATES FARMERS NEED, BUT CANNOT RAISE OR PROCESS ON THE FARM

Peebles' Free Choice Feed

Rich in Whey Nutrients

"We first fed Peebles' Free Choice Feed when our chicks had a setback. They were 12 weeks old. They recovered by feeding Free Choice Feed — no medication was used.

"We now start feeding at about 10 days old. It has helped to speed up growth, makes chicks stronger, and the chickens like it.

"Has also minimized the effect of several cases of coccidiosis."

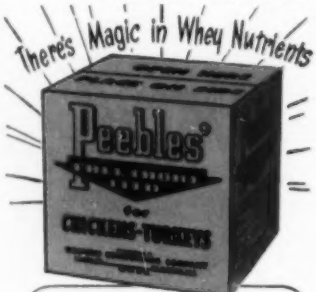
HARRY BOCKMILL, *Stanfordville, N. Y.*

"On a good number of flocks, when birds were started on Peebles' Free Choice Feed at an early age and continued on through the laying age, our records show general health has been better in the flock. When the flocks started laying, they remained in constant production rather than taking the slumps that generally occur."

ELMER ZASTROW, *Norfolk, Nebraska*

"We have had remarkable results with Peebles' Free Choice Feed. For instance, we have produced a 3.17 pound broiler in 11 weeks on 8.75 pounds of feed, when Free Choice was included. The appearance of birds was much better; they sell better."

R. S. FOSES, *Grove, Oklahoma*



- More than an Appetizer
- More than a Conditioner
- More than a Nutritious Feed

A Combination Of All Three!

For wet mash feeding, ask for Peebles' 55

Write—Get all the facts

Find out how you can get more eggs with lower feeding costs. Write to Appleton, Wis. for folder B-3.

WESTERN CONDENSING COMPANY

Appleton, Wis. • San Francisco, Calif.

World's Largest Producer of Whey Products

Laughing

Too Much Bookkeeping

A farmer instructed his hired man to write on each egg the date laid and the breed of the hen. Quite suddenly, the hired man resigned his job.

"Why do you want to leave?" asked the farmer.

"I've done all sorts of jobs," the hired man told him, "but I draw the line on being secretary to a bunch of hens!"

Sign Language

G.I.'s in Tokyo are amused by this sign in front of the Shinbaski railway station: "Leave your luggage with us and we will send it in all directions."

P.S.—He Got the Stamp

A man who had been waiting patiently in the post office could not attract the attention of either of the girls behind the counter.

"The evening coat," explained one to her companion, "was of redingote design in gorgeous brocade with fox fur and wide pagoda sleeves."

At this point the long-suffering customer broke in with: "I wonder if you could give me a rich green stamp with a dinky perforated hem, the toute ensemble delicately treated on the reverse side with mucilage—something in the neighborhood of 2 halfpence?"

A Long-odds Offer

Though 80 years old, an Atlanta, Georgia, gentleman still was spry and kept his sense of humor. Unfortunately, he was away from home on his fiftieth wedding anniversary. So he wired his wife $50 along with the following message: "Congratulations, dear, from your only husband. Want to try for 64?"

at Life

The Error of Our Ways

(*Calls From the News Columns*)

Sticky Affair

The mothers of the bride and groom wore navy glue with white accessories.—*Corydon (Indiana) Republican.*

To Warble Old Favorites?

Wanted: Good, used baritone.—*Miami (Florida) Herald.*

Home Brew Sets a Style

Perhaps you didn't know that it is fashionable to have your tonsils polished and dyed a bright red, green, or blue.—*St. Joseph (Missouri) Gazette.*

A Clean-cut Title

Five lots were purchased and the weeds were filed for record.—*Hagerstown (Maryland) Mail.*

Dainty, Bite-sized

For sale: Fresh country bullet eggs.—*Steubenville (Ohio) Herald-Star.*

That's One Too Many

The summer hotel may be crowded, but there's always room for one bore.—*Dallas (Texas) Morning News.*

Nervous Travelers

Mr. and Mrs. W. H. were hoppers in Wahpeton Tuesday.—*Richland County (North Dakota) Globe.*

Neat Trick If You Can Balance

Lucille and Michael had to stand on a stable to cut the cake, but they did it.—*Rock Island (Illinois) News Digest.*

SUCCESSFUL FARMING

"I scratched the front fender a little—if you want to look at it, it's in the back seat."

Now you can have beautiful Bruce Hardwood Floors

already sanded and finished!

Just lay this PREFINISHED oak flooring right over your old floors

You can give your home new beauty at low cost with a prefinished Bruce Hardwood Floor. Completely finished at the factory with the famous Bruce "Scratch-Test" Finish, this highest quality oak flooring can be nailed right over old floors. It's ready to use as soon as laid. No messy, expensive sanding and finishing on the job.

Naturally beautiful—It's the most beautiful, most durable floor you've ever seen. The warm, natural coloring of superbly finished oak harmonizes with any room furnishing plan. You have your choice of three lovely designs: Bruce Strip as pictured above, modern Bruce Block (parquet), or distinctive Ranch Plank with random widths and walnut pegs.

Moderate in cost—A new Bruce Hardwood Floor will cost you less than a good rug or carpet. Easy to keep clean and beautiful, too. It's just the thing to use in fixing up or adding a room, and there's nothing finer for a new home. Ask your lumber dealer for cost estimate. Mail the coupon below for literature with room photos showing beautiful Bruce Hardwood Floors in natural colors.

MAIL COUPON FOR LITERATURE

E. L. Bruce Co., 1644 Thomas St., Memphis 1, Tenn.

Send me color folder on Bruce Hardwood Floors

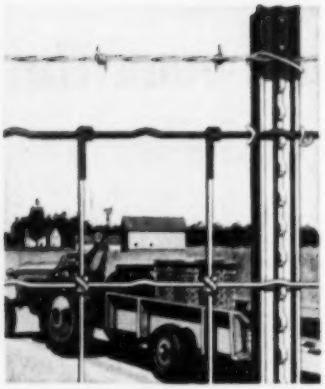
☐ for installation over old floors ☐ for a new home

Name _____

Address _____

City & State _____

BRUCE *Prefinished* HARDWOOD FLOORS



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So take advantage of the experience of farmers everywhere. Insist on long-lasting Red Brand fence.

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Are you getting full value from

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Evaluating seeds, feeds, equipment, chemicals

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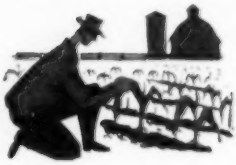
Cutting down livestock and poultry losses

Controlling crop diseases, weeds, insects

Help with soil improvement, fertilizers



By Leonard Brooks

Extension Agent, Bonner County, Idaho

Joe Greene farms a short distance from our extension office. A couple of weeks ago he came in, sat down, and waited until the other callers had gone and only Mrs. Boren, our home demonstration agent, and I were left. "Now I've seen a county agent's office," he smiled.

"Is this your first time in?" I asked him, a little alarmed at the thought.

"Yes," he replied. "One of my neighbors comes in now and then, and he's been telling me I should see you about some things. We've lived in the county for the past 23 years, but my wife and I figured the county agent was too busy for us to bother him."

"Where do you go for information about your farm problems?" I asked him, secretly wondering how many *other* farmers had the same opinion of our office.

"I generally go to the neighbors and see what they know about a problem I can't work out. Most of the time they give me some ideas. Sometimes none of us knows the answer. I read some, too."

Mrs. Boren got into the conversation. "What about the problems your wife has?" she asked. "She must want to know the same things about foods and homemaking that the rest of us wonder about."

Mr. Greene lit his pipe before he answered. "That's part of the reason I'm here. We heard you had free plans for remodeling kitchens. Also, I have a pasture that is full of brush and I want to know where I can get some stuff to kill it. Is this new 2,4,5-T best to use?"

These were everyday requests which we soon took care of. Then we talked.

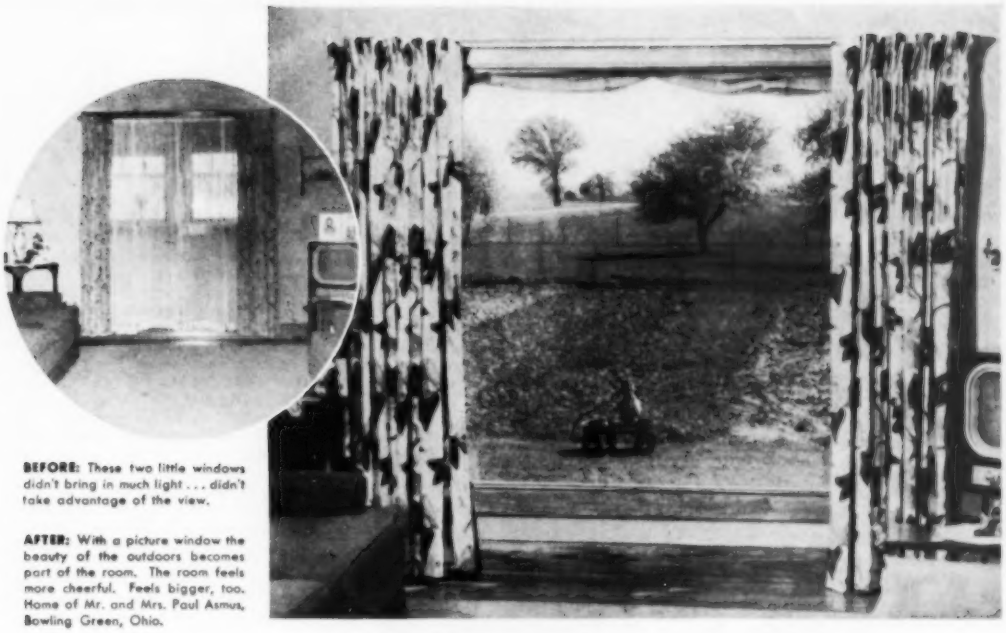
Greene lives within 5 miles of town, comes in almost every week of the year, sees his neighbors in the stores, buys the things his family needs, and goes home. He farms 120 acres, has electricity, milks 18 cows, and draws an average income. He is a high-school graduate and reads some of the farm magazines and the local weekly. But neither he nor his wife had ever seen a bulletin put out by the state university. He had no idea of the purpose of our office.

When he had gone, Mrs. Boren and I looked blankly at each other. Here was a man who had lived almost in our back yard for the past 20 years, but who had not come to us once for the information we could give him and his wife about farming and farm living.

Mr. and Mrs. Greene must have been two people out of many in our county whom we were not reaching. How could we give folks more of their money's worth from the services we have to offer? We did some serious thinking and here are our conclusions:

First of all, we'd like to have farm people feel we are never too busy to talk about their problems. No farm man or farm woman is justified in feeling we are too busy to talk about farm problems. Actually, we can't talk to too many farmers. We learn from them. Neither Mrs. Boren nor I am embarrassed by the fact that we don't have all the farming and homemaking problems written down in a pocket notebook. Finding the answers to farm and homemaking problems is a two-way proposition between the farm family and the extension people.

[*Turn to page 110*



BEFORE: These two little windows didn't bring in much light . . . didn't take advantage of the view.

AFTER: With a picture window the beauty of the outdoors becomes part of the room. The room feels more cheerful. Feels bigger, too. Home of Mr. and Mrs. Paul Asmus, Bowling Green, Ohio.

LOOK WHAT YOU CAN DO

(and you'll love it)

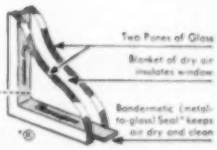
What a difference a larger window can make! A room that feels closed-in and cramped can take on a new feeling of bigness and brightness. A dull wall becomes a living picture of your own outdoors—to enjoy every season of the year. All this merely by replacing little windows with a picture window of *Thermopane** insulating glass! Why not give yourself and your family a chance to enjoy the views of your farm?

Thermopane puts a blanket of insulating air between you and the cold of winter and the heat of summer. It's two panes of glass, with dry air hermetically sealed between them with a metal-to-glass seal. *Thermopane* reduces heat loss and saves fuel. It reduces condensation on windows in cold weather. And it gives you these benefits of window insulation without the bother of storm sash.

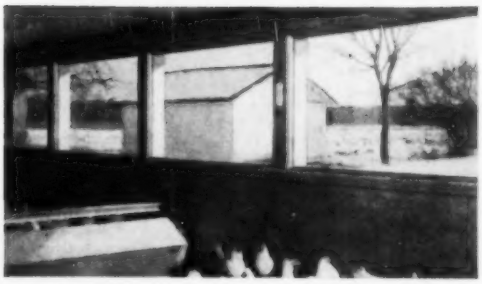
Thermopane is easily installed in fixed or opening sash. It is sold by glass and building supply distributors and dealers. Write us today for more information.

LOF GLASS *Thermopane*

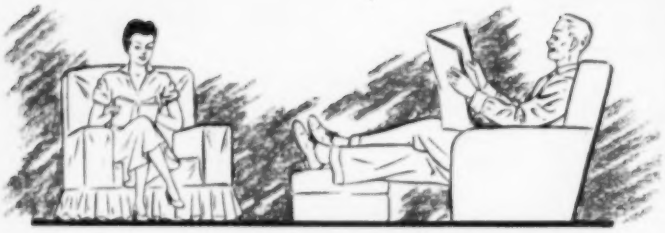
LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES



MORE PRODUCTION when service buildings are sun-heated and insulated for winter warmth



Many farm service buildings today are built with large windows facing south to bring in sunshine for winter warmth. These windows are *Thermopane* insulating glass to hold more of that heat inside. The resulting extra warmth enables the ventilating system to carry off more moisture. Hence, the building provides conditions more conducive to better animal health and greater production of milk, meat and eggs. The benefits of sun heat, window insulation and ventilation are discussed in our booklet "Improved Farm Building Daylighting". Write us today for your copy—and ask for our booklet "Self-insulating Windows of *Thermopane*". Libbey-Owens-Ford Glass Company, 2532 Nicholas Building, Toledo 3, Ohio.



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"It's What's UNDER the Casing that Counts!"

Your county agent

[*From page 108*]

When a farmer comes in with a problem, he may be starting something that will eventually be of tremendous benefit to many farmers. Some of the weed problems or the plant- and animal-disease epidemics that have caused so much trouble here could have been headed off if we had had this close cooperation between the farmer and his county agent.

We need to talk about the farm problems in our county. If I don't have the solution, then it's my business to get the information and work on it. The same is true of the problems that face Mrs. Boren in her work with our homemakers.

Second, we'd like to help our farmers operate more efficiently. For some reason, many farmers seem willing to take losses year in and year out without doing anything about them. Many think it's just bad luck that they have to lose calves, pigs, and poultry, and put up with poor crop yields.

Yet avoiding such losses would mean more money for them—money which could be used to make their lives better and easier. It could buy plumbing, farm equipment, house remodeling, or better clothing for the family. If we can help our farm folks save that money, they get fuller returns on the money they invest in us.

Now and then a farmer makes a poor investment. We all do, but we're most likely to make them when we're out of our own fields of knowledge. County agents can't always advise accurately on stock and bond investments, but they can be helpful in problems concerning the best way of getting disease-free chicks, finding suitable varieties of crops, buying or not buying a livestock mineral, or how much fertilizer to use on wheat.

Quite often we can save a farmer the embarrassment and loss that comes from buying from the shyster, fly-by-night salesman. We can help him evaluate livestock "cure-alls," seeds and feeds, equipment and fertilizers, house paints, milk strainers, or mousetraps.

Third, we'd like to sit in on more farm meetings. We can, only if we have advance notice of the meeting. We want to have a chance to talk with our farm people, to help with the particular problems under discussion if they are in our line of business. We may find a new approach to a problem, something that may help solve it.

Lastly, we'd like to know that people trust us to keep their personal affairs confidential. If the Jones family intend to spend a lot of money building a house and putting in a Grade A dairy and they come to us for help in planning the layout, that's confidential business. We don't discuss it with other people.

People have a right to window-shop in our office just as they do on the streets of the town. We want them to feel free to come in any time and see our goods, whether they buy or not. If Joe Greene comes in this fall and tells me that he has decided against all the plans he and Mrs. Boren and I made for remodeling their kitchen, it's all right with us. Sooner or later, if he comes back often enough, we will be able to give him something he can use. If we have a part in his farm planning or in Mrs. Greene's home problems, then the Greene family will begin to get its money's worth. **END**

See one of these stores for home planning help

Get FREE help in planning your home decorating, building, and remodeling in any of these stores cooperating with the *Successful Farming* Home Planning Service:

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*Bloomington	Livingston's
Champaign	Robeson's, Inc.
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*St. Louis	Stix, Baer & Fuller
*Springfield	Heer's, Inc.

Nebraska

*Lincoln	Gold & Company
Norfolk	Ballantyne's
*Omaha	Orchard & Wilhelm

New York

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If a big one gets away in Canada, there's another even bigger ready to take your cast or lure.

Absorb "foreign" atmosphere in a friendly setting, north of the border in Canada.

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Corn silage cuts protein costs

Experimental samples were taken at harvest time to compare protein content

High-protein corn may hold the spotlight, in the next few years, as one of the best silage crops. Tests show that silage from high-protein corn can furnish some of the protein now purchased in concentrates such as soybean meal. This silage not only has feeding qualities equal to those of other corn silage, but also supplies some of the extra protein so vitally needed for meat and milk production.

High-protein corn silage—in trials conducted by W. B. Nevens, K. E. Harshbarger, and P. C. Burk at the Illinois Experiment Station—carried 50 to 75 percent more protein than silage from well-known hybrids such as U. S. Hybrid 13. A daily feeding of 40 pounds of high-protein silage supplied about $\frac{1}{2}$ pound more protein than 40 pounds of U. S. 13 silage. To supply an equivalent amount of extra protein—on the basis of digestible protein—would require 0.6 pound soybean meal containing 44 percent protein. Protein, as a rule, is the most expensive part of cattle feed.

High-protein corn was developed by plant breeders at the Illinois Experiment Station through a long and painstaking procedure. Starting in 1896 with Burr White, a good-yielding, open-pollinated variety, careful selection for more than 50 years has brought this corn to the point where the grain contains upwards of 19 percent protein. This extra protein in the grain is reflected in the silage.

The silage made from U. S. 13 corn contained about 1.8 percent protein, while that from the Illinois high-protein corn had approximately 3 percent protein. A high-protein corn hybrid which was also included in the test produced forage with 2.8 percent protein. This was only a little less protein than that in the station variety.

You must keep in mind that high percentages of protein in corn forage are possible only when corn is grown on highly productive soil which is amply supplied with nitrogen. The plots of silage corn grown for this experiment were heavily manured during the previous fall and winter. The crop was side-dressed with ammonium-nitrate fertilizer at the rate of 200 pounds per acre during the last cultivation.

The fertilizer treatment, of course, helped to increase the yield as well as the protein content of the forage. Strains of high-protein corn grown on unfertilized land rather low in productivity produced forage with about the same percentage of protein as other corn.

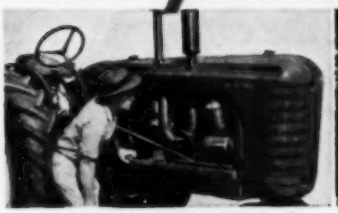
In feeding trials with 18 high-producing dairy cows, silage from each of the three kinds of corn gave good results. The grain mixtures fed with each of the two high-protein corn silages were lower in protein content than the mixture fed with the U. S. 13 silage. This was done in

[*Turn to page 114*

Photographs: W. B. Nevens

High-protein hybrid (left) produces nearly as many tons of silage per acre as U. S. Hybrid 13 (center). Shorter corn (right) yields more protein than either

Everywhere you look...



Under the Hood

Notice the *size* of these Massey-Harris power plants! There's no skimping of materials or workmanship here. That's why big, high compression Massey-Harris engines deliver *more* power and get *more* work done on each gallon of fuel than any other leading make of tractor . . . and last longer. Impartial tests prove this. Operating costs are lower — your profits greater, when you own a Massey-Harris.

Up Front

Check Massey-Harris quick-turning, shock-proof steering. *Three* teeth of the steering sector are always engaged with the worm — distributes wear and shock over more area —eliminates backlash and steering "whip." Castor-set wheels steer easier. Free rolling super-sealed wheel bearings last longer. You end the day fresher, with more acres covered with a Massey-Harris.

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You'll ride smoother on the Velvet-Ride, hydraulically mounted seat . . . stand up more comfortably on the full-width platform . . . turn and stop easier with the positive light-pressure brakes . . . see ahead better over the streamlined hood . . . operate the instant-reach controls quicker, including two-way Depth-o-Matic hydraulic system that powers tools into the ground as well as out.

You get more in a Massey Harris

THE more advantages you look for, the more features you check, the more reasons you'll find for owning a Massey-Harris! Impartial tests prove that in power, performance and economy, Massey-Harris tractors lead the field.

But the advantages of farming with a Massey-Harris don't stop with the tractor itself. You are also ahead with the tools you can mount on your Massey-Harris tractor. There's a full line of matched equipment for every farming need. Years ahead in design, Massey-Harris mounted tools attach quicker, adjust easier, last longer, and do better work under a wide variety of conditions.

No matter whether you farm 50 or 5,000 acres, you can enjoy the performance of Massey-Harris tractors. There's a size to fit your needs — 6 power sizes and 31 models. So look over the complete line of Massey-Harris tractors and equipment at your nearby Massey-Harris dealer. Ask for a demonstration on your own farm. See for yourself why more and more farmers find it pays to "Make it a Massey-Harris" . . . why Massey-Harris is the fastest growing full line farm machinery company. For complete tractor catalog by mail use the coupon below.

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Here is a weed killer that represents a great step forward in an improved 2,4-D ester formulation. Esteron Ten-Ten offers real progress in weed control . . . especially where weeds are tough and hard-to-kill. Check these advantages of *new* Esteron Ten-Ten:

• Contains powerful 2,4-D esters (propylene glycol butyl ether) • Gives more effective control of hard-to-kill weeds such as thistle and wild buckwheat • Less hazard from *low-volatility* formulation • Sprays easily in either hard or soft water mixtures • Versatile—use it in either low or high volume application equipment • Excellent storage qualities—no settling due to freezing or extended storage.

FORMULA 40—still the best *amine* weed killer. Wherever farmers find an *amine* weed killer formulation does the job, Dow's famous **FORMULA 40** is preferred. Effective kill of common weeds . . . non-clogging formulation for low-volume air or ground application . . . years of *proved* results . . . these are what you buy in Formula 40.

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DOW
CHEMICALS
INDISPENSABLE TO INDUSTRY AND AGRICULTURE

Corn silage

[*From page 112*]

order to keep the protein content of the three rations alike.

No protein supplement at all was used in the mixture fed the cows receiving silage made from the Illinois high-protein corn. The cows performed satisfactorily, indicating that the protein of the high-protein corn silage was well utilized.

True, the protein quality of the grain of high-protein corn is not quite as good as the protein quality of the grain from well-adapted hybrids. This was pointed out in "The Truth on High-protein Corn," October, 1951, *Successful Farming*. But cattle and sheep do not worry about this small detail. These animals are able to use the nitrogen of a simple synthetic compound known as urea for a part of their protein supply.

Given enough legume hay, a grain mixture of home-grown grains, and silage, a cow can make efficient conversion of these feeds into milk. For high milk yields, some protein supplement ordinarily is needed, but the use of high-protein corn silage will help lessen this need. The outlay for protein feeds could be reduced further by the use of high-protein corn grain as part of the grain mixture.

Seed supplies of high-protein corn are small. This development is still in the experimental stage. However, if you want silage of higher protein content, you can start at once by stepping up the fertility of the soil on which the corn is grown. Heavy applications of barnyard manure before plowing, together with the use of nitrogen fertilizers as a side-dressing, will help you get more protein. **END**

. . . Look into this OPPORTUNITY

***The Successful Farming Circulation Company* has a few openings for territorial men in the area served by *Successful Farming*.**

This is an opportunity for the right man to step into an established business that will pay far above the average income, year in and year out. And, you can be home every night.

A guaranteed weekly salary and commissions plus group life insurance and hospital benefits make this an attractive opportunity for properly qualified men.

Qualifications

- *You are between the ages of 25 and 55, and seek a permanent sales position.*
- *You have a car.*
- *You have a farm background and will enjoy contacting farmers.*
- *You can pass a physical examination.*
- *You have a good reputation and education.*

If you are interested in this kind of opportunity and can qualify, write to our closest branch office listed below. Tell why you think you are the man for the job.

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S. F. Beebe
Box 555
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Southwestern
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It was the worst snowstorm of the year,

but there was no stopping

The Blizzard Baby and "Your Unseen Friend"

THIS storm came out of nowhere . . .

Hit the town with drifts that were shoulder-high in the flats—drifts that neither man nor beast nor ordinary plows could navigate. Everything was at a standstill.

Everything but *The Blizzard Baby*, the town's new rotary snowplow! There was no stopping *her*.

She was built to keep going, to keep bucking big drifts, to keep riding deep ruts . . . hour after hour . . . in freezing cold weather. In her "pusher," she had gears and axles made of tough, stress-resisting Nickel alloy steel!

And in her rotary mechanism, she had more of these rugged, long-lived Nickel-containing alloys . . . in vital parts! That's why the wearing, tearing job of sucking snow in, chewing up chunks, and spewing the spray 80 to 100 feet off the road, didn't wear *The Blizzard Baby* down. That's why she could keep everlastingly at it till the town's highways were clear.

It's easy enough to see what Nickel does for a snowplow on the home front or a jet plane on the defense front. But see the Nickel itself . . . ? You can't . . . because it's intermixed with other metals to add strength, heat-resistance, or other special properties.

That is why Nickel is called, "Your Unseen Friend."

For the inquiring mind: *Where does Nickel come from—who made this friendly metal useful, valuable? How is it possible to raise tons of ore thousands of feet and produce Nickel for your ever expanding world of wonders?*

This romance of men, mines, and machines, of developing resources, is in your free copy of "The Romance of Nickel." Write, The International Nickel Company, Inc., Dept. 503a, New York 5, N. Y.

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INCO **Nickel**... Your Unseen Friend

SAVES WORK • SAVES TIME
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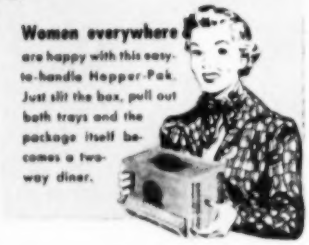
STONEMO
HOPPER-PAK
Starts Chicks right with essential GRIT!



So *many* reasons STONEMO Hopper-Pak is getting the acclaim of all poultrymen (and poultry women) who have used it!

So *many* reasons farmers and poultrymen are ordering this combination grit package and two-way feed hopper—right along with their chicks or feed!

STONEMO Hopper-Pak is the easiest way to give your chicks essential grit and *start them right*. It's light, convenient, and costs so little! Every Hopper-Pak contains ten pounds of STONEMO, just enough for 100 chicks up to the age of 3½ to 4 weeks.

The sharp cutting surfaces of STONEMO insoluble granite grit go to work grinding feed—making valuable nutrients more usable—enabling birds to make faster, more profitable gains at less feed cost.

This year, help your birds grind out more from every pound of feed. Give them STONEMO right from the start, first in the Hopper-Pak and then from the economy 80-pound bag. Both are available at your local feed or poultry supply dealer.

***FREE* Valuable Grit Facts,** Address Dept. SF-3, **STONE MOUNTAIN GRIT COMPANY,** Lithonia, Georgia.

STONEMO
INSOLUBLE GRANITE GRIT
EXTRA GRINDING SURFACES

YOUTH GOES ON RECORD

The draft

Panel members, high-school juniors and seniors from northwestern Missouri, all want to farm. They are (left to right) Wendell Hinkle, Cecil Young, Joe Noellsch, Jim Bailey, Ora Butcher (county agricultural agent), Gailen Robbins. Not pictured, Rodney Fink

By Betty Camp

Without a doubt, the biggest problem on a high-school boy's mind today is the draft—two years of military service staring him in the face. Practically every healthy youth has given some serious thought to what his wisest move will be, come graduation day. Typical of a farm boy's thinking these days are some of the surprisingly mature comments brought out by this month's panel.

The six high-school seniors and juniors who got together at the high school in Mound City, Missouri, have about a year to go before they'll have to register for military service. Should they enlist? Should they start to college, then try for deferment? Should they wait it out until the draft catches up? One thing is certain. The boys agreed there was no one "right" answer.

Rodney: It depends on a fellow's setup. It might be a good thing to get your stint in service over with right away. It looks like everybody is going to have to serve sometime. We're in this for a long while.

Wendell: Yes, but you're tied up longer if you enlist than if you wait to be drafted. I think it's smart to go to college until you're drafted. If I can get two years of agriculture in at Kansas State before the draft catches up with me, I'll have a pretty good background to start farming when I get out.

Gailen: That's what I think I'll do. Go to college as long as I can.

Cecil: It might be smart to go straight to college, but I want to go into farming on my own just as soon as I can. My dad has fixed it for my brother and me so we can start farming for ourselves. I probably could start out on 160 acres. If I went into service, Dad might change his mind.

Rodney: That's fine to say you *want* to start farming. Who doesn't! But it's plenty hard now. And even if someone sets you up, you'd probably just get going good when the draft would hit you and you'd have to sell all your livestock and machinery. I don't think it's wise to get all tied up.

Wendell: If you go to school until you're called, maybe it would help you in service, and after you come out, you will have a better background for farming.

Rodney: I'm interested in the Navy or Air Force, and if I signed up, I'd have a better chance to get in one of these branches. One thing about college, you can get into an R.O.T.C. (Reserve Officers Training Corps) unit. Often, they will let you finish college. That's a good deal. You have to pass rugged physical and mental tests, though, and not all boys can qualify.

Jim: I think I'll get a job around here and wait until I'm almost 18, then sign up for the branch I want.

Joe: I'm going to help my dad until I have to go. After I get out of service, I want to go to college if I can.

Some local draft boards are more lenient in deferring farm boys than others. Did these boys feel that farmers *should* be deferred?

Wendell: It should be on the basis of what good they are contributing on the farm. If they're really essential, they are helping the war effort more by staying home and helping their dads.

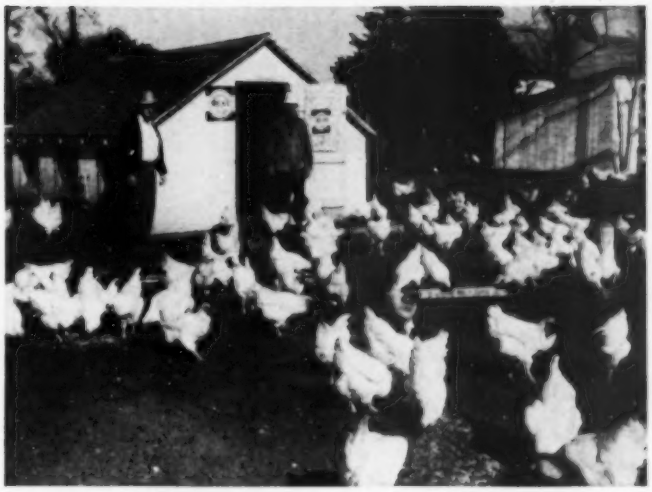
Rodney: Boys in town don't think it's fair to defer a fellow just because he lives on a farm, but I think if he is contributing something to the country's welfare, that should be considered. After all, food is essential to the war effort.

Jim: In some cases, the dads are not able to work. They're getting older and probably would have to sell if their sons didn't help them.

Cecil: I don't think anyone *wants* to go into service. I surely would rather not. But I have two brothers who help Dad, so I suppose it's only fair I serve sometime. Of course my older brother is 1-A now

[*Turn to page 118*

A part of the money-making flock of E. V. Swanson, Galesburg, Illinois. In the background: Mr. Swanson (right) and Marvin Ray, Pillsbury Feed Dealer at Abingdon, Illinois.



Pillsbury-fed flock pays $15.05 a Day ABOVE ALL EXPENSES

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Quality chicks, strict sanitation and Pillsbury's Best Chick Starter—that's the combination to start with, for results like this in the fall, according to E. V. Swanson, Galesburg, Illinois.

As this is written, Swanson's 525 White Rocks are producing at the rate of 86%. With his eggs averaging better than 50 cents a dozen and his daily feed cost $4.95, the flock is showing a profit of $15.05 a day over all expenses.

A strong point in Swanson's management is that he keeps his layers two years and makes them pay. He says there is no appreciable molt, or drop in production.

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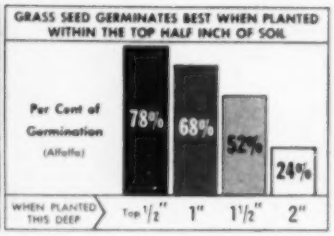

Your two biggest cost items when seeding a field of grass or legumes are working time and seed. When you save seed you save cash . . . especially when you get a better stand with less seed. The chart above shows results of a test made by a leading agricultural college. It shows that seeding too deep wastes more than half the seed you sow. Drilling or broadcasting grass seed fails to give uniform, proper-depth planting. That discovery started the development of the Brillion Sure-Stand Seeder . . . the seeder that plants your seed within the top half inch of soil, and saves enough seed in a few days' use to pay for itself.

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Today one machine, the Brillion Sure-Stand Grass Seeder, saves time in the field and gets a better stand of grass on 1/5 to 1/2 less seed.

In one trip over the field, it crushes lumps ahead of the seeding mechanism, drops the seeds at an accurate rate and at the right depth . . . then gently firms the soil around those seeds for quick, sure germination.

The Sure-Stand is equipped with a second box and seeding device especially designed to handle chaffy seeds successfully. It places the right amount of any grass seed within the top half inch of soil where it will germinate best.

The usual seeding methods . . . drilling or broadcasting . . . put the seed too deep or too shallow or on a lumpy seed bed. As a result, half or more of it fails to germinate and is wasted.

Plan to get the full germination results from the seed you buy. Go to your Brillion Sure-Stand dealer. See for yourself how this sturdy seeder can save you as much as a few hundred dollars each year on your own farm. Many users report saving enough the first year to more than pay for their Sure-Stands. A full-color folder completely illustrating this marvelous seeder is yours for the asking.

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Brillion
SURE-STAND SEEDER
"TUCKS EACH SEED TO BED — IN THE TOP HALF INCH OF SOIL."

The draft

[*From page 116*]

and will probably have to go into service soon.

Jim: I have two brothers, too—one 15 and one 8—who help Dad.

Gailen: I don't think most fellows on a farm *should* be drafted. There is a smaller percentage of them, and the ones in the city aren't contributing very much to the war effort. It's hard to draw the line, though.

Wendell: Of course there are all sorts of ways to look as if you're essential. I know a fellow who didn't want to go in the last war, so his dad bought him some sheep and he called himself a farmer and got deferred.

Rodney: I know in the last war our draft board wouldn't defer you more than six months or so unless you were going to college. I'm not sure how lenient they are now. I don't think any of us has come in contact with the draft board yet.

The boys don't want to go into service. But, making the best of it, do they feel the service offers *any* opportunities?

Cecil: Well, I've heard some of the boys say that if you join up, it is one way of getting around. See this country and other countries, too.

Jim: It would give you an idea of what people are like. You meet all kinds. Also, if you didn't have any certain work in mind, you would have time while you were in service to figure out what you wanted to do.

Rodney: You might get some training which would help you in a job when you got out.

Ora Butcher (county agricultural agent): You won't find a school in any service that is devoted to agriculture, though, and that's what most of you boys want to do eventually. You'll have to get your training for *that* when you get out.

Rodney: Maybe you could save a little money to start farming, and you can't borrow money to go into farming until you're 21, anyway.

Wendell: Nobody's going to make a fortune on Army pay. That's for sure! It seems to me the boys who get to stay home are going to be a long way ahead, and the fellows who come out of service won't have much. It isn't the fellow's fault if he doesn't have to go, but it's rough on those who do.

Rodney: I think they should have some sort of compensation for those who have to go so they can get started when they come back.

Besides interfering with career and college plans, what are some of the other disadvantages of military service?

Jim: Let's face it! The average fellow is scared. I know I won't like it.

Rodney: There are all sorts of temptations and you're wasting a lot of time. But that can go both ways. There's a lot to learn if you use your time studying and reading.

Wendell: It's a boy's own fault if he does start drinking and gets into trouble. I don't think the Army itself makes him do it. His background has a lot to do with the way he acts.

What about marriage? If the boys met the right girl, would they get married before they went into service?

Jim: I certainly don't intend to be-

come engaged before I go in. There's no point in getting married and then leaving your girl after a few months. You may not be alive to come back to her.

Wendell: I agree. Even if you like a girl fairly well, you might change your mind. There will always be another one coming along if she's not there when you get back. Girls are like streetcars—one along every few minutes.

Cecil: Yeah, there are plenty of girls. No point in rushing this thing.

Is it wise to join a reserve unit?

Rodney: This new Navy reserve plan looks like a pretty good thing. You sign up, go once a week, and get paid. Then you go in and serve 21 months and are on call for another year.

Cecil: I think you're sticking your neck out to attach yourself to a reserve unit unless you want to make a career out of it. There are advantages in pay, but there are more disadvantages. A lot of times they *say* you will be out in 21 months, but that isn't always true.

How did they feel about universal military training? (All youths would register at 18, be trained for a short period, then be in the reserves for several years.) Is this a fairer system than the present setup?

Rodney: I don't like it! I suppose if one has to go, all of us should go—it would be fairer in that respect. But they sign you up for seven or eight years, and you're never sure when you'll be called. That's an awful long time to be tied up. I'd still be on call when I'm 26! I'd as soon go for two years and then be free.

Wendell: I don't think many fellows are in favor of it.

Rodney: We're heading for more and more control. Universal military training is just like the totalitarian countries that have compulsory military training.

As is the case with most of today's youth, the draft has become the dominant fact in the lives of these high-school boys. They don't want to go into service. No longer is there any glamour attached to military life. Certainly, they show no enthusiasm to fight. The draft has them upset because they can't start making plans for the future.

But along with it, these boys accept the heavy responsibility of fighting with surprising calm and a realistic attitude. Above all, they don't wish to shirk their duty at the expense of other boys. And as Wendell Hinkle put it, "If a draftee is a real man, he'll take service in his stride."

Each month Successful Farming *will report an actual panel discussion of young people on the knotty questions and problems which confront today's farm youth. If you would like us to lead a discussion at a meeting of your youth group, write and tell us your question. We can't work in all your ideas, but we'll get around to many of them.—Editors*

Do you have a question?

Through our Farm and Home Service Bureau, *Successful Farming* offers you personal-letter help with your problems without charge. Please outline all details of your question clearly when you write. If referring to an article in the magazine, mention page number and month of issue.

Address your inquiry to The Farm and Home Service Bureau, *Successful Farming*, Des Moines 3, Iowa.

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This kind of weather you need the best heat you can get and that's exactly why I'll take *bituminous* coal over any other fuel! With coal there's no "all-on or all-off" flame—you've got a continuously glowing fire. The result? A steadier sort of warmth—fewer "cold pockets"—and fewer colds, too!

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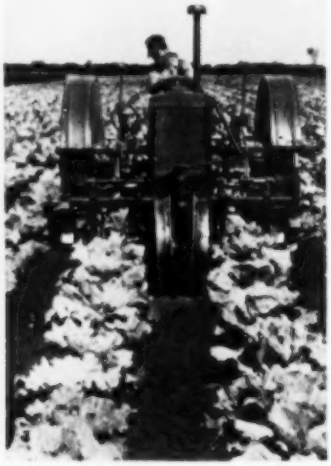

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Moderate graze is best way to save legumes

The best way to maintain a good stand of legumes in your legume-grass pasture mixture next summer is to follow a moderate grazing program.

University of Illinois agronomists compared different grazing systems on four 20-acre pastures. The pastures were on similar soils, had received identical fertilizer treatments, and were seeded with the same mixture of legumes and grasses. The 4 grazing systems were: heavy continuous, moderate continuous, heavy alternate, and moderate alternate.

Under heavy continuous grazing the percent of legumes in the pasture dropped from 55 percent to 18 percent in 2 years. But with the moderate continuous grazing system, the mixture still contained 40 percent legumes after 2 years.

Heavy alternate grazing was just as hard on the pasture mixture as heavy continuous grazing. On this field the percentage of legumes dropped from 62 percent to 13 percent. The fourth field, on which the moderate alternate system was followed, started out with 56 percent legumes and still showed 44 percent at the end of the 2-year period. Perhaps these figures will help you make more profitable use of your own pasture.

Welded chain makes strong

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An old log chain makes a sturdy and attractive mailbox stand for Foster McDonald and his son, Jefferson County, Illinois. The links are welded together to make them rigid. The welded chain is set in a concrete block to give it a sturdy foundation.

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Combine illustrated can be used with the Ford Tractor or any other two-plow tractor.

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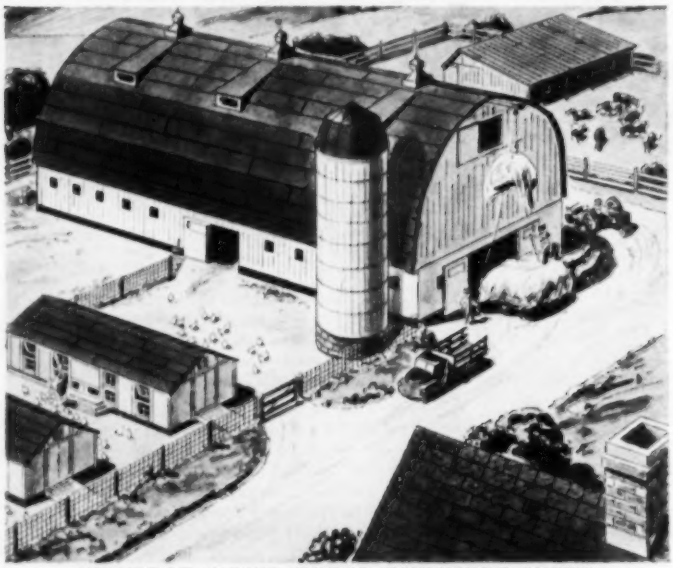

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The PLAY

Where Playfellows

The Kitty That Couldn't Meow

Nancy had a problem to solve. Her kitty couldn't meow like other cats. She decided to ask Mrs. Duck what to do about it.

Mrs. Duck can't think much farther than the nearest pond. She stood on first one flat foot and then the other, trying to think.

At last she said, "If I couldn't meow, I think I should try to quack."

"Oh, Mrs. Duck," laughed Nancy, "Kitty wouldn't want to quack like a duck."

"It is a very good way to talk," said Mrs. Duck. "However, you might ask He-Haw, the donkey, what to do."

He-Haw said he had never heard of a cat that couldn't meow. He switched his short donkey tail. He twitched his long ears. He was trying to think.

At last he said, "If I couldn't say 'meow,' I think I should try to say 'hee-haw.'"

"Oh, Mr. Donkey," laughed Nancy, "a kitty wouldn't want to bray like a donkey."

"It is a very good way to talk," said Mr. He-Haw. "However, you might ask Merrybell, the cow, what to do."

Merrybell said she had never heard of a cat that couldn't meow, even at the fair. She chewed her cud for a while and then said, "I think if I couldn't meow, I might try to moo."

"Oh, Mrs. Cow," laughed Nancy, "a kitty wouldn't want to moo like a cow."

"It is a very good way to talk," said Mrs. Cow. "I'll teach your kitty to moo."

"All right," agreed Nancy. "Kitty has to learn to say something."

So every day for a week Nancy and her kitten went to the pasture and Merrybell tried to teach Kitty to moo. But it was no use. Nancy's kitten just couldn't, or wouldn't, learn.

But one day, without meaning to at all,

HOUSE

meet every month

Merrybell picked up her big front hoof and set it down hard, right on the kitten's tail. Kitty jumped away with a frightened cry and ran to Nancy, meowing as she ran.

Nancy was so excited. "Listen, Merrybell, listen to my kitty meow! She must have known how all along, but she didn't have any reason to meow before."

But Merrybell wasn't interested any more. She'd thought it would be fun to have a kitten who could moo.

Backward or Forward. All the three-letter words described below read the same backward or forward. How many of them can you find?

1. Mother — — —
2. Father — — —
3. Father again — — —
4. A little child — — —
5. A little dog — — —
6. Something to see with — — —
7. Lots of energy — — —
8. A shout — — —
9. Adam's wife — — —
10. A joke — — —
11. A female sheep — — —
12. A chin apron — — —
13. A shell that won't explode — — —
14. A kind of haircut — — —

Answers: 1. Mom; 2. Pop; 3. Dad; 4. Tot; 5. Pup; 6. Eye; 7. Pep; 8. Wow; Ohio, Ahu, or Hah; 9. Eve; 10. Gag; 11. Ewe; 12. Bib; 13. Dud; 14. Bob.

Farm Puzzle. Here is a farm "problem" that is fun to solve. All words are the names of things or conditions which exist on farms. To find the answer, fit the following letters into the puzzle so that they spell the words which are defined in the phrases below. Cross out each letter as you use it.

A A A A A — B B B — C C C — D — E E E E E — H — I I — K — L L L — N — O O — P — R R R R R R — S S S S S — T — U U

1	T						
2		T					
3			T				
4				T			
5					T		
6						T	
7							T

Definitions: 1. Used in hauling things. 2. Where horses are kept. 3. Trenches. 4. Grazing land. 5. A machine used to pull things. 6. Pails. 7. Enclosure.

Answers: 1. Trailer; 2. Stables; 3. Ditches; 4. Pasture; 5. Tractor; 6. Buckets; 7. Barnlot.

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3 AN *effective* DEODORIZER

The ability of Clorox to deodorize is a big plus benefit to millions of women. And this deodorizing action is yours whether you use Clorox in laundering or routine cleaning!

4 *In addition* CLOROX is one of the world's great DISINFECTANTS

Used in laundering or routine household cleaning, Clorox helps you guard your family against dangerous germs. For Clorox is the most efficient germ-killer of its kind . . . a type of disinfectant employed by sanitation experts the world over. See directions on the label.

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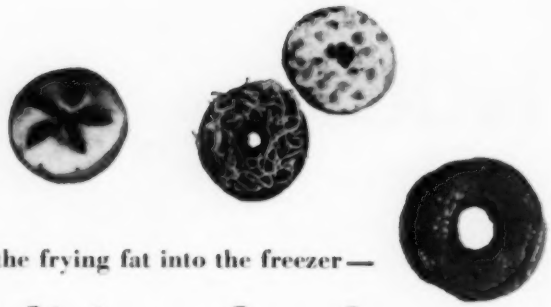


Out of the frying fat into the freezer—

delicious doughnuts

By Susan Menne

The smart homemaker is using any extra minutes these days to stock her home freezer with family favorites. If doughnuts are your project, prepare for an invasion! You'll lose many a doughnut, 'twixt frying and freezing, to the sharpened winter appetites of all within sniffing distance.

To fry. Ideal frying equipment includes a deep, not-too-wide vessel, heavy enough to be steady on the stove. Fill it not more than half full of fat. In a pinch, you can use a frying pan for the job and fry quite a few doughnuts at once.

For most accurate results, use a deep-fat-frying thermometer. However, if you don't have such a thermometer, you can judge the temperature of the fat with a 1-inch square of bread. When the temperature is right, the square of bread will turn brown in 1 minute.

Cut the doughnuts with a floured cutter and let them stand 15 minutes before frying. Lower them gently into the fat, remembering not to crowd the pan. Turn only once, usually shortly after the doughnuts rise to the top of the fat, or when the first crack appears in the doughnut. Drain on absorbent paper, and sugar (if that's the way you like doughnuts) by shaking them in a paper sack. Use either granulated or confectioners' sugar.

Try dropping a few whole cloves in the frying fat. You'll like the extra zip.

To freeze. Cool your doughnuts thoroughly, after sugaring, frosting, or glazing, and wrap each doughnut in waxed paper or aluminum foil. Package the individually waxed-paper-wrapped doughnuts in moisture-vaporproof freezer wrappings and freeze at 0 degrees.

When you're ready to thaw the doughnuts, leave all the wrappings on until the doughnuts are warmed up almost to room temperature—about 1 hour.

In this selection of doughnut recipes, you're bound to find the one that is your family's favorite. Dress it up with coconut, chopped nuts, or slices of maraschino cherries.

Grandma's Raised Doughnuts

Makes 24

Dissolve **1 package granular yeast** in **½ cup warm water,** or **1 cake compressed yeast** in **½ cup lukewarm water**
Scald **½ cup milk**
Add **3 tablespoons shortening** **1 teaspoon salt** **½ cup sugar**
Stir until dissolved.
Cool to lukewarm.
Add dissolved yeast to mixture.
Stir in **2 eggs,** well beaten **½ teaspoon mace**
Add **4 cups sifted all-purpose flour,** 1 cup at a time, beating well after each addition
Knead until smooth and satiny, about 8 minutes.
Let rise until doubled in bulk, about 2½ hours.
Punch down.
Roll ½ inch thick; cut with floured doughnut cutter.
Let rise again, about 1 hour and 10 minutes.
Fry in **deep fat** (375°) until brown.
Glaze while still warm.

Chocolate Glaze

Glazes 10 doughnuts

Melt **1 1-ounce square unsweetened chocolate**
Blend **1¼ cups confectioners' sugar** **1 egg white**
Add sugar mixture to melted chocolate.
Add **1 to 2 tablespoons hot water**
Beat until smooth.
Dip doughnuts in glaze, covering completely.

Lemon Glaze

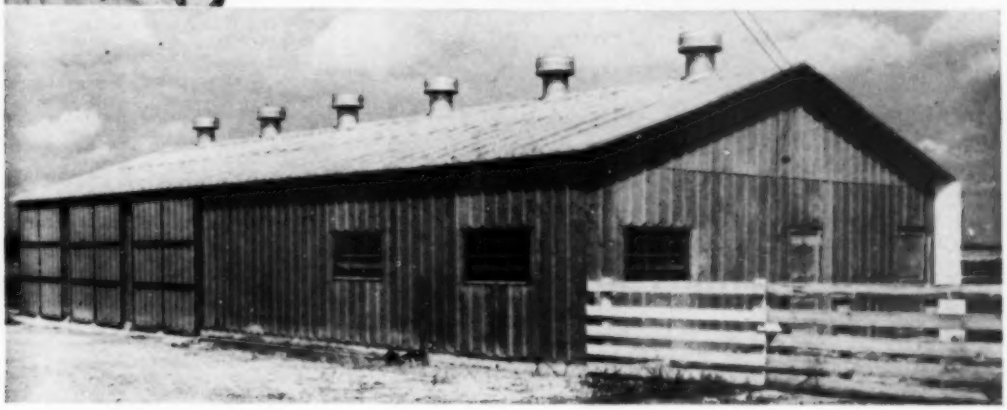
Glazes 8 doughnuts

Heat **1 tablespoon butter** or **margarine**

[*Turn to page 126*

"the steel building frame does away with posts"

says CHARLES H. BOROP, R.R. No. 4, Princeton, Illinois



When Mr. Borop was in the market for a new barn, he realized the value of an obstruction-free interior. He didn't want any posts or pillars to clutter up his floor space. Read Mr. Borop's actual, signed statement:

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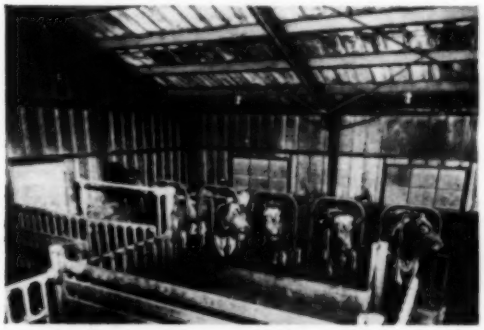
"The heavy steel frame does away with the need for trusses or posts. It makes this building handy for storing hay as well as farm equipment when the hay is removed.

"The livestock are comfortable in winter and summer. The heavy galvanized steel covering gives us maximum fire-safety, low upkeep, neat appearance and long life. We expect these things to pay dividends for many years."

Remember that Mr. Borop made this statement after his steel building had been in service a good while—after he paid hard cash for it.

Thousands of other farmers feel just like Mr. Borop. They know that no matter what kind of building material you consider, *you'll get more for your money when you build with steel.*



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UNITED STATES STEEL

Mrs. Ronald Sweig of Saginaw, Mich., praises handy Dry Yeast

Receives Homemaker's Award from Governor

Mrs. Ronald M. Sweig was thrilled to be named "Champion Homemaker" at the 1951 Michigan State Fair—and to receive her special Homemaker's award right from Governor Williams! Here the Governor congratulates Mrs. Sweig after presenting her with a silver tray.

Mrs. Sweig won this special award for piling up such a high total of points in the Home Arts Department at the Fair . . . including points for her *cooking* entries, of course. Over the past 15 years, she has won hundreds and hundreds of cooking awards! And like so many prize cooks, Mrs. Sweig uses Fleischmann's Active Dry Yeast. "It gives me wonderful results," she says. "And it's so easy to use."

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SATISFACTION GUARANTEED OR MONEY BACK

Delicious doughnuts

[*From page 124*]

2 tablespoons lemon juice
1 teaspoon lemon rind over hot water until butter melts
Remove from hot water.
Blend . . . **1½ cups sifted confectioners' sugar**
1 egg white
Add melted-butter mixture to sugar and egg white; beat until smooth.
Dip doughnuts in glaze.

Maple Glaze

Glazes 16 doughnuts

Heat . . . **½ cup maple syrup**
Add gradually to:
2 cups confectioners' sugar
Add . . . **1 teaspoon vanilla**
1 tablespoon hot water
Dip doughnuts in glaze.

Bismarcks

Makes 12

Prepare . . **1 14½-ounce package hot-roll mix,** according to directions on package
Let rise until doubled in bulk.
Knead 30 times on floured board.
Roll to ¼-inch thickness.
Cut into rounds with 2½-inch floured cutter.
Place . . . . **1 teaspoon preserves** in center of one round and top with another round
Seal edges well by moistening with water; press together securely.
Let rise until light.
Fry in **deep, hot fat** (375°) about 2 minutes on each side.
Drain on absorbent paper.
Brush with **Transparent Glaze** while warm:
Blend . . . . **1 cup sifted confectioners' sugar**
1 to 2 tablespoons warm water
½ teaspoon vanilla

Sugar Doughnuts

Makes 24

Cream . . . **1 cup sugar**
3 tablespoons shortening
Add . . . . **2 eggs,** well beaten
Sift together:
4 cups sifted all-purpose flour
1 teaspoon nutmeg
1 teaspoon salt
4 teaspoons baking powder
Add dry ingredients alternately to shortening with **1 cup milk**
Add . . . . . **¼ cup sifted all-purpose flour** to make soft dough
Roll ½ inch thick on floured board.
Cut out; fry in **deep fat** at 375°.
Drain on absorbent paper; sugar.

Orange-glazed Doughnuts

Makes 18

Beat together:
2 eggs
1 egg yolk
Add . . . . . **1 cup granulated sugar,** beating constantly
Combine **juice of 2 oranges** and **water** to make ¾ cup
1 tablespoon grated orange rind

Blend with egg mixture.
Add . . . . . **2 tablespoons shortening**
Sift together:
4 cups sifted all-purpose flour
1¼ teaspoons salt
¾ teaspoon soda
½ teaspoon cream of tartar
Sift half of flour into egg mixture.
Beat until smooth.
Add remaining flour and mix well.
Turn out on floured board; roll ⅜ inch thick.
Cut with 2½-inch floured doughnut cutter.
Fry in **hot fat** (375°), about 1½ inches deep, until brown.
Drain on absorbent paper.
Glaze with **Orange Glaze** while warm:
Combine in top part of double boiler:
1½ tablespoons butter or **margarine**
1½ tablespoons lemon juice
1½ tablespoons orange juice
1½ teaspoons grated orange rind
Heat over hot water until butter melts.
Remove from heat.
Add . . . . . **2 cups sifted confectioners' sugar**
Beat until smooth.

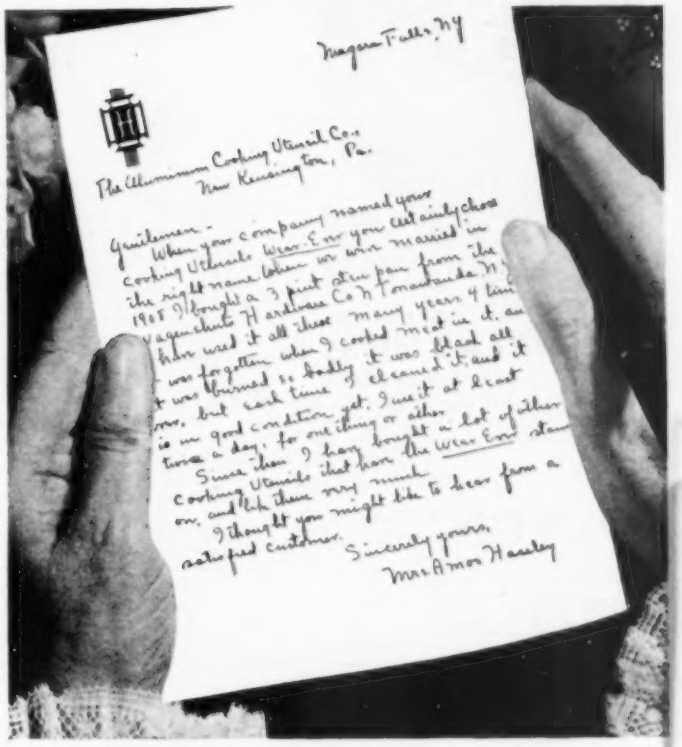
More space with little shelves

If you know how to use it, half a shelf is often better than a whole one. Your kitchen cupboards probably have lots of wasted height above every shelf. Why not use this extra room as a place to build little shelves 4 inches wide and 4 inches below the shelf above?

Paint them to match the cupboard lining. The small shelves will provide quick, safe storage for your cups, doing away with the nuisance of cup hooks or the danger of piling cups in a heap. It's a good place, too, for beverage glasses.

Spices and other small tinned things also may take up much needed space on your pantry shelves. Many times they hide behind larger packages. If you build little shelves for them, too, they'll always be in plain sight, and you'll have more room for bigger containers.

we were married in 1908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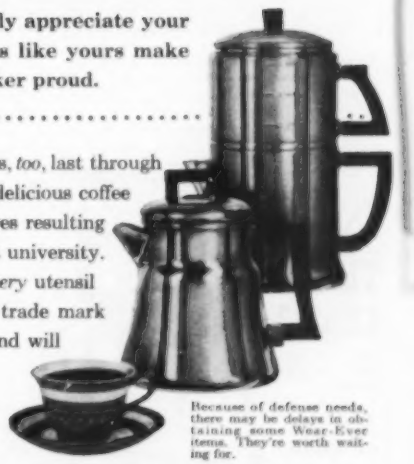
Since then I have bought a lot of other cooking utensils that have the Wear-Ever stamp on, and I like them very much.
I thought you might like to hear from a satisfied customer.
Sincerely yours,
Mrs. Amos Haseley

Mrs. Haseley, we deeply appreciate your thoughtfulness. Letters like yours make every Wear-Ever worker proud.



Wear-Ever coffee-makers, *too*, last through the years. They assure delicious coffee because of design features resulting from research at a great university. You can be sure that *every* utensil bearing the Wear-Ever trade mark is of enduring quality and will give you long years of better, easier cooking.

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Variety meats make the meal

By Mary Collum

The most inexperienced cook usually can conjure a passable meal around a choice porterhouse steak. But it's the really *good* cook, the one with a few years of trial and error behind her, who can serve company meals from variety meats.

These delectable meat specialties—heart, tongue, liver, kidney, brains, and sweetbreads—mean vitamins plus for your family meals. Serve them often for healthful eating.

Liver, heart, kidney, and tongue are strong-flavored meats. You may want to mask this flavor, if it's one your family doesn't relish, by combining the meat with favorite sauces or other ingredients.

Brains and sweetbreads, on the other hand, are more mild and delicate in flavor. As you'll see in the cooking chart below, they require about 15 minutes' precooking in simmering water. The cooked, tender meats can then be used in creamed dishes, or combined with tasty sauces, or served in cold-meat salads.

How to cook variety meats

	Beef	Veal	Pork	Lamb
Heart	Cook in water Braise	Cook in water Braise	Cook in water Braise	Cook in water Braise
Tongue	Cook in water	Cook in water	Cook in water	Cook in water
Liver	Braise Roast	Broil Fry	Braise Roast Fry	Broil Fry
Kidney	Cook in water Braise	Cook in water Braise Broil	Cook in water Braise	Cook in water Braise Broil
Brains	Precook in water Then— Cream Scramble Fry	Precook in water Then— Cream Scramble Fry	Precook in water Then— Cream Scramble Fry	Precook in water Then— Cream Scramble Fry
Sweetbreads	Precook in water Then— Cream Braise Fry Broil	Precook in water Then— Cream Braise Fry Broil		Precook in water Then— Cream Braise Fry Broil

Breaded Brains

Serves 4

Wash ... **2 pounds calves' brains**
Cover with cold water and boil about 5 minutes.
Remove brains; peel off outer tissues.
Cut into 3-inch serving pieces.
Combine **1 cup bread crumbs**
1 tablespoon chopped parsley
1 tablespoon Parmesan cheese
1/2 teaspoon salt
1/8 teaspoon pepper
Roll brains in bread-crumb mixture.
Fry in ... **1/2 cup hot salad oil** about 5 minutes, or until brown on both sides.

Tongue a la Maryland

Serves 6

Wash ... **1 3 1/2-pound tongue**
Cover with
1 quart water
Cover and simmer about 3 1/2 hours, or until tender.
Trim and remove skin; slice.
Save ... **1 cup cooking liquid from tongue**
Combine **1/4 cup butter** or **margarine**
1/2 teaspoon salt
1 bay leaf
3/4 cup brown sugar
1 1/2 cups canned cherries, drained
1 cup liquid from tongue
1/2 lemon, sliced
Simmer sliced tongue in above mixture for about 15 minutes, or until liquid thickens.

Sweetbreads Supreme

Serves 8

Simmer .. **2 pounds sweetbreads** in
1 quart water
1 teaspoon salt
1 tablespoon vinegar
Drain and detach membrane.
Break sweetbreads into small pieces.
Drain and save liquid from:
1 6-ounce can mushrooms
Halve mushrooms and brown in:

[*Turn to page 130*

Now you're ready for anything!

. . . not only because your Oliver "QD" cultivates all row crops so well, but also because it *is* a "QD"—Quick-Detachable—you need but a moment to free your tractor for any job that comes up. Simple "QD" clamps lock the gangs to the pipe supports, gripping tight with one easy motion.

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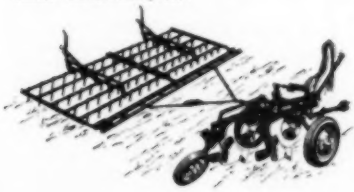

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Variety meats

[*From page 128*]

4 tablespoons butter or **margarine**
Stir in ... **4 tablespoons flour**
liquid from mushrooms plus **milk** to make **2 cups**
1 teaspoon salt
1/4 teaspoon pepper
Cook until thick, stirring constantly.
Add ... **1 cup peas,** canned or frozen
sweetbreads
Serve hot on **toast.**

Spicy Liver Ring

Serves 6

Cover ... **1 pound beef liver** with
hot water
Cover and simmer for 5 minutes.
Put through food grinder, using fine plate.
Add ... **1 pound pork sausage**
2 tablespoons chili sauce
2 tablespoons horse-radish
1 tablespoon grated onion
2 eggs, beaten
2 cups dry bread crumbs
1 cup water
Mix thoroughly.
Fill well-oiled 9-inch ring mold.
Set ring mold in pan of hot water.
Bake at 350° for 1 hour.
Remove from oven; unmold on cooky sheet.
Return to oven 5 minutes to brown.
Serve with **chili sauce.**

Heart Chop Suey

Serves 4

Clean and trim:
1 2½-pound beef heart
Wash in warm water.
Cut in serving pieces.
Dredge in **½ cup seasoned flour**
Brown in **4 tablespoons hot fat** in heavy frying pan
Cover with:
2 cups meat stock or **water**
Simmer about 1 hour, or until tender.
Add, before meat is tender:
1 cup diced celery and simmer until tender
Brown ... **¼ cup mushrooms**
½ cup sliced onion in
2 tablespoons hot fat
Add onion and mushrooms to beef-heart mixture with:
2 tablespoons soy sauce
2 teaspoons molasses
Thicken with:
2 tablespoons flour.

Beef-and-Kidney Pie

Serves 6

Wash, remove tubes, and cut into 1-inch cubes:
2 pounds beef kidney
Add ... **2 cups water** to kidney in saucepan
Cover and cook slowly about 45 minutes, or until tender; drain.
Cut ... **2 pounds beef chuck** into 1-inch cubes
Brown in **4 tablespoons hot fat**
Add ... **1 cup water**
Cover and simmer 30 minutes.
Drain and save broth.
Combine beef and kidney.
Season with:
2 teaspoons salt
½ teaspoon pepper

Mix ..... **4 tablespoons flour** with
1 cup water to form smooth paste
Thicken beef broth with flour paste.
Add beef and kidney to thickened broth.
Blend.
Pour into individual casseroles.
Prepare .. **1 package piecrust mix** according to directions on package
Top casseroles with piecrust.
Bake at 425° (hot) about 15 minutes.

Sweet-sour Beef Heart and Noodles
Serves 6

Wash and trim:
1 3-pound beef heart
Cook in boiling, salted water:
4 ounces noodles (½ 8-ounce package)
Drain.
Melt .... **¼ cup butter** or **margarine**
Add .... **¼ teaspoon thyme**
⅛ teaspoon basil
⅛ teaspoon sage
1 teaspoon salt
⅛ teaspoon pepper
Combine with noodles.
Stuff heart with noodle mixture.
Skewer together.
Brown on all sides in
¼ cup hot fat
Add .... **¼ cup water**
Cover closely and cook on low heat until tender, about 3 hours.
Remove heart.
Skim off excess fat from broth.
Make paste of:
3 tablespoons flour
broth
Add paste to remaining broth.
Stir well until thick.
Serve with heart. **END**

Know your table styles?

Test your knowledge of table styles with these questions

1. What table gets its name from the construction of the supports beneath its top? Think of a train crossing a ravine and you'll have the answer.
2. What table's name sounds like a musical instrument—one your children would love to pound on?
3. The name of one table is an important part of a favorite American pastry dessert.
4. What drop-leaf table is named after a famous line of English earls whose name begins with the letter "P"?
5. The servant that answers the door in wealthy homes has a table named for him, since it was originally intended for his use. It's now used frequently as a coffee table. What is its name?
6. A slang phrase for "money" is also the name of a table. It's used as an end table now, but was originally intended for use in the kitchen.
7. A gay, flying insect suggests the name of a popular Early American drop-leaf table style.
8. Feeling sympathetic toward someone? Then what table has a name which means "to sympathize"?

Turn to page 140 for answers

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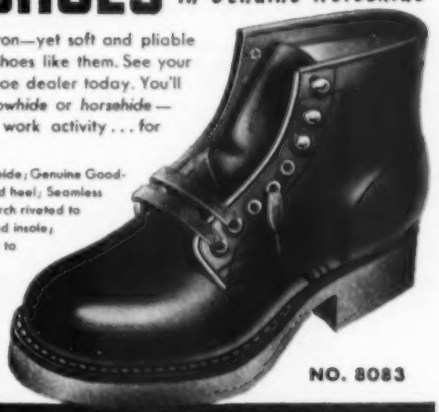

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Substitutes for sow's milk

[*From page 41*]

Do you have trouble drying the sow up immediately after farrowing?

Manufacturers and researchers say they haven't had any difficulty. Sows apparently suffer no ill effects from not nursing their litters.

How do you mix the substitute milk?

The substitute milk in powder form is reconstituted by adding water. How much water you add depends upon the manufacturer's directions. One product calls for 1 part of the powder to 5 parts of water by volume.

What weight gains can you expect from pigs fed substitute milk?

Better gains than from pigs left with the sow. In one test, where the pigs were removed from the sow at birth, the weight average at the end of 56 days was 44.1 pounds. In another test, where the pigs were taken from the sow when 10 days old, the weight average at 56 days was 41.33 pounds. The national on-the-farm average is 28 to 30 pounds at 56 days.

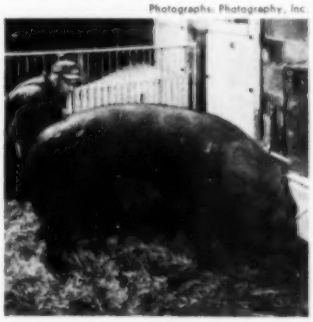
In both the tests mentioned above, all pigs reached 200 pounds in 141 days. They required 328 to 340 pounds of feed to produce 100 pounds of gain. Another product is said to produce pigs 10 to 35 percent heavier at weaning than the average sow-fed pig.

Do pigs like substitute milk?

Yes, they do. In all the tests we have seen, the pigs showed evidence of a genuine like for the substitute milk.

Substitute sow's milk was fed to the pigs above until weaning age. These pigs are the first litter from the sow shown below

Photographs: Photography, Inc.



Third litter in about 13 months will be produced by this sow. The sow shows no ill effects and is in excellent condition

How often do you feed the pigs?

The number of times a day pigs are fed substitute milk is usually stated in the manufacturer's directions or program for feeding. In most cases, for less than 10-day-old pigs, the milk is kept in front of the animals at all times.

When the pigs are 10 days or older, twice-a-day feeding is enough. One manufacturer recommends feeding 1 quart of reliquefied substitute milk to each pig twice daily after the pigs are 10 days old.

Pigs taken from the sow at birth, or before they are 10 days old, learn to drink from a trough easily. Simply pushing the pig's snout into the milk once or twice usually is enough to get the pig started drinking.

Another important part of substitute-milk feeding is to get the pigs started on dry feed as soon as possible. After the pigs are 10 days old, they should have access to a good creep ration and a constant supply of fresh water. In one test, 6-week-old pigs went on a completely dry ration. Pigs fed substitute milk seem to learn to eat dry feed sooner than pigs left on the sow.

How important is supplemental heat for the pigs?

If there is one factor that appears to lead to the success or failure of a substitute-milk feeding program, it's the matter of keeping the pigs warm enough. During cold weather, heat lamps may not do this for pigs taken from the sow at birth. Even when the pigs are 10 days or a little older, heat lamps alone may not do the job for very early-spring pigs or late-fall pigs.

The pigs must be kept warm or they won't do well. One farmer, who has used substitute milk, kept his pigs in one of his farrowing pens and used two heat lamps in each pen. The house was well ventilated, but cold even with the heat lamps. The pigs became chilled, then scoured. The scouring didn't last long and the pigs continued to gain, but not as fast as they should have.

With this system of hog raising, most—but not all—experts think a heated hog house is almost a necessity. But the house needn't be as big as one used for raising pigs left with the sow. The smaller the building, the easier it will be to heat.

How many pigs can you put in a pen?

The number of pigs per pen depends upon two things: 1) size of pigs; 2) feeding equipment used. As many as 20 to 25 pigs have been kept in a normal-size farrowing pen. These pigs were fed from a trough and were removed to a bigger pen when they were a week or so old. If you use the poultry-fountain type of feeder, you probably won't want more than 10 pigs in one pen. If you have more than that, there won't be room for all the pigs to get at the fountain.

How long should you continue to feed substitute milk?

The same length of time the pigs would normally nurse the sow. Eight weeks is long enough. At 6 weeks, the pigs should be gradually weaned. Don't get the idea that if 8 weeks of substitute-milk feeding is good, 10, 12, or 14 weeks will be that much better. At 8 weeks, the pigs are usually on dry feed, and giving them substitute milk won't help weight gains. Prolonged milk feeding will only boost your production costs unnecessarily.

[*Turn to page 131*

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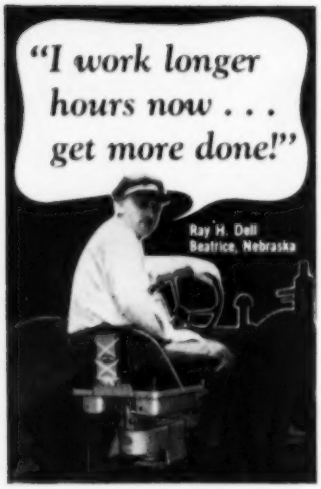

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Substitutes for sow's milk

[*From page 133*]

Can you get three litters a year from a sow?

In theory, yes. Actually you probably won't get three litters in exactly 12 months. But you can come mighty close. On test farms, it has been proved that sows can be rebred three days after farrowing. Four months later these sows gave birth to another normal litter. You can't count on having all your sows breed successfully in that short a time, however.

Sows normally will conceive very well during the second heat period following farrowing. This second heat period occurs about 16 days after farrowing. Some sows may not breed until 31 days after farrowing. Experimental work using hormone injections may speed up rebreeding.

Sows used as nothing more than "incubators" in the substitute-milk feeding tests were in better condition and health after the third farrowing than most sows farrowing twice a year. The reason for this is that the lactation period of 56 days is much harder on the sow than the 4-month gestation period.

Providing enough milk for a litter of pigs is a hard job for a sow. The best sows usually won't produce as much milk as their litters could or would drink. At the end of the 56-day suckling period, the sow usually needs at least a month to "get back on her feet" again.

What sanitation practices are necessary?

Next to the problem of keeping the pigs warm, sanitation is the biggest problem in raising pigs on substitute milk. Utensils used for feeding the substitute milk must be kept very clean. Most manufacturers recommend scrubbing the utensils with a disinfectant after each feeding.

Next, the pigs must be kept dry. If they get wet, they may become chilled.

When can you vaccinate pigs raised on substitute milk?

Vaccinating at 6 weeks of age has been the practice in some experimental tests. Pigs vaccinated then showed no ill effects.

Does substitute-milk feeding require more labor?

Because this system still is new, it's difficult to say, but the answer probably is yes. For the first few days, the substitute milk must be kept in front of the pigs at all times. This means mixing a new batch fairly often. After the pigs go on twice-a-day feeding, the labor problem is less.

As we said before, utensils must be cleaned thoroughly after each feeding, and pens must be kept dry and clean. The peak of the labor problem occurs during the first 10 days the pigs are fed substitute milk. However, if actual labor costs are a little higher, don't forget that pigs raised on substitute milk gain much faster and go to market sooner.

Are production costs less when pigs are raised on substitute milk?

Indications are that production costs are lower when substitute milk is fed, but only time will prove this for sure.

Here are the cost figures from a typical substitute-milk feeding test:

Costs of the substitute milk plus the creep feed for 56 days amounted to $4.94 per pig. At the end of the 56-day period, the pigs averaged about 40 pounds. The cost per pig when nursing the sow for 56 days amounted to $7.20 per pig.

Costs after 8 weeks to 70 pounds—including the cost of a pig-starter ration—amounted to $8.37 for the pigs which had been fed substitute milk and $10.63 for the pigs that had nursed the sow.

The costs to bring the pigs fed substitute milk from 70 pounds to 200 pounds are encouraging. Total cost per pig for concentrates and shelled corn for this period amounted to $15.59. Adding this figure to the $8.37 cost of bringing the pig to weaning age gives a total feed cost of $23.96 for a 200-pound hog. Using a selling price of $18 per hundred, these pigs returned $12.04 over feed costs.

Cost-of-production figures indicate that feed costs are 80 percent of the costs of production. The pigs in the test above could be sold for $29.95 to break even—or $14.98 per hundred. All the figures in this test include labor costs.

What does substitute milk cost?

At present, the price varies from about 20 to 40 cents a pound, depending upon the brand of substitute milk. One company estimates that 4½ pounds, plus a creep ration, will feed 1 pig 6 weeks.

Who has experimented with substitute-milk feeding?

Many state colleges and a number of commercial organizations. Experimental work carried on at the University of Wisconsin showed encouraging results. This experiment was first reported in the September, 1951, issue of *Successful Farming*. Iowa State College, the University of Illinois, and the University of Minnesota also have experimented with substitute milk. Dr. B. C. Johnson, University of Illinois, was one of the first.

The following commercial organizations are among those who have experimented or are planning to experiment with a product to replace mother's milk for young livestock: Land O' Lakes Creameries, Minneapolis, Minnesota; Chas. Pfizer & Company, Inc., Brooklyn, New York; Western Condensing Company, Appleton, Wisconsin; Albers Milling Company, Los Angeles, California; Allied Mills, Chicago, Illinois; Food Technology Inc., 5903 Northwest Highway, Chicago, Illinois; The Borden Company, New York City, New York; Ralston-Purina Company, St. Louis, Missouri; Consolidated Products Company, Danville, Illinois; and Cargill-Nutrena Mills, Minneapolis, Minnesota.

Has substitute sow's milk been tried by average farmers?

Yes, although not for a very long period of time. A number of farmers in Iowa, Minnesota, and Missouri are using it.

Where can I buy substitute milk?

As this is written, several firms have reported to *Successful Farming* that they have a substitute milk immediately available. Some have added antibiotics. These firms are the Land O' Lakes Creameries, Minneapolis, Minnesota; Chas. Pfizer & Company, Inc., 11 Bartlett St., Brooklyn, New York; Consolidated Products Company, Danville, Illinois; and Food Technology Inc., 5903 Northwest Highway, Chicago, Illinois. END

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MORE CORN. Field at left yielded 95.7 bushels after getting 200-250 lbs. of nitrogen fertilizer, plowed down, and 120 lbs. of 4-24-12 in the row. Field on right received 200 lbs. of 0-18-0, plus 145 lbs. of 8-8-8 in the planter; yielded but 44.5 bushels.

MORE WHEAT. Near Cheney, Kansas, Keith Foley came out 200 lbs. short on nitrogen fertilizer. Result: Wheat that received no nitrogen (right) produced 9.7 bushels. The portion that got nitrogen (left) yielded 20.0 bushels.

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"Mark of the Masters"

Extra profits from

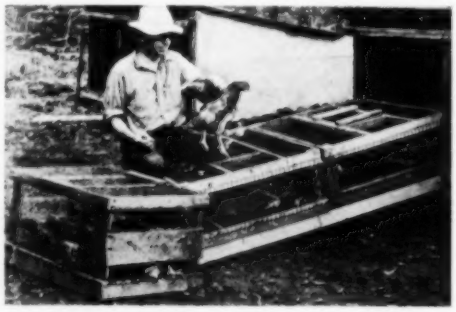
hormone-treated chickens

By Vernon Schneider

There just isn't a demand for hard-meated roasters or old roosters. Likewise, poultry raisers who buy straight-run Leghorns or Leghorn crosses face a price cut when they market their cockerels at 4 to 4½ pounds. Sure, the markets will buy these birds, but at a lower price than they are paying for soft-meated birds and heavy-breed cockerels.

However, poultrymen in many areas have met and whipped this problem. Their answer is a simple and inexpensive method of treating these birds with diethylstilbestrol, a female sex hormone. These hormone-treated birds, commonly known as caponettes, take on the characteristics of the female bird. They become inactive, hang around the hen house, their meat gets soft, and the breast broadens.

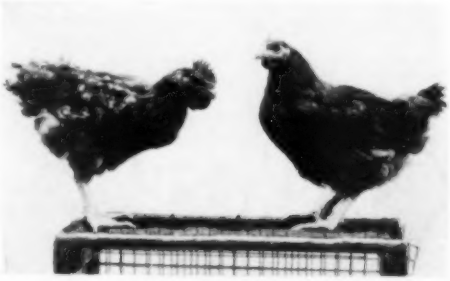
[*Turn to page 138*



Young cockerels are treated at 5 to 6 weeks of age — sold 5 to 7 weeks later. Two persons can treat about 200 birds an hour using a single-shot implanter. Catching coop, placed in door of hen house or shelter as shown, helps corner untreated birds

Hormone pellet is implanted under skin at the base of skull. Be careful not to scratch skull or get pellet in neck muscle

Cockerel at right received hormone treatment at 8 weeks, one at left didn't. Here's how they looked 4 weeks later. Note combs



More meat in the right place is the result. The hormone-treated bird at right has a deeper body, broader breast. Untreated bird at left weighed 4 pounds at 12 weeks, the treated bird 4½ pounds at same age. See picture on page 138

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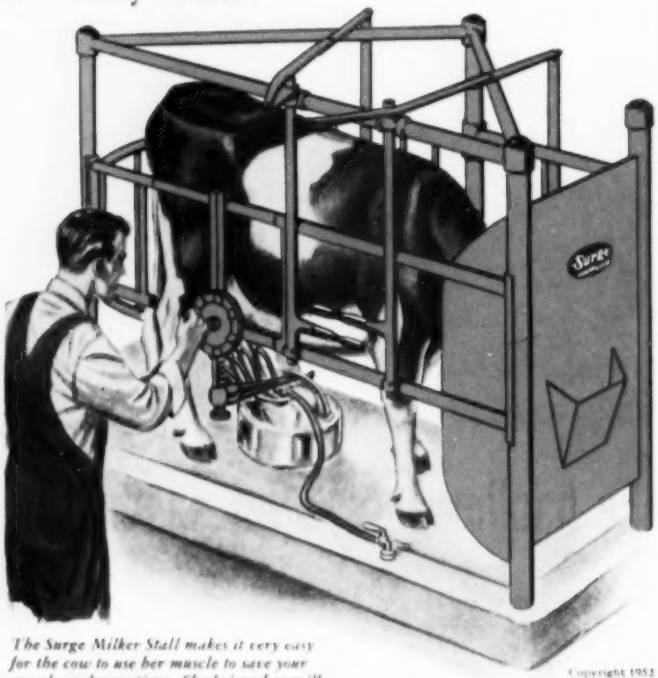

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Hormone-treated chickens

[*From page 136*]

For the poultry raiser with a dozen or so old roosters, or several hundred young cockerels, caponettes may be his answer to producing soft-meated roasters and fryers which the customer will demand. Two persons can treat up to 200 birds an hour using a single-shot implanter. Or, if an automatic implanter is used, the time can be cut in half.

The cost of treating a bird with the hormone, which comes in the form of a little pellet, is about 3 cents. These pellets are implanted under the skin near the base of the skull. Here the pellet is near the blood stream into which it is absorbed, and in a portion of the body which will be thrown away when the bird is killed.

Complete absorption takes about 8 weeks, after which time the male bird will take on its former characteristics, and the meat tends to lose its tender qualities. The cost of the implanter ranges from $1.50 to $5, depending on the outfit.

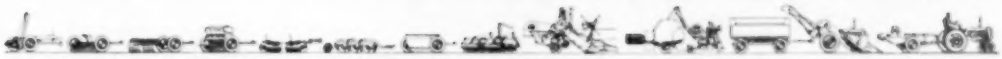
Now, you ask, what can I expect in return for my trouble? Let's take for example Hugh (Pinky) Gordon, hatcheryman and produce buyer at Marion, Iowa. In one year 20,000 birds in his area were treated with the hormone by farmers. Most of these birds were either Leghorns or Leghorn crosses. Gordon paid the farmers an additional 4 or 5 cents a pound for the caponetted birds, or about 20 cents more for a 4- to 4½-pound cockerel. Meat on these birds, according to Gordon, was equal, and in some cases superior, to that of the heavy breeds.

The Hoover hatchery at Rudd, Iowa, also buys caponetted birds. In one season they sent out two men in the Rudd area and treated around 35,000 birds. The farmers, in turn, received a 5-cents-per-pound premium for their caponettes—about half the difference between non-caponettes and surgical capons.

Young cockerels should be treated when 5 to 6 weeks of age and then dressed out 5 to 7 weeks later. Broilers or fryers give the best results if they are treated from 4 to 6 weeks before marketing. Old roosters require from 6 to 8 weeks to tenderize after the hormone pellet is implanted in the neck.

Hormone-treated cockerel (right) has more tender meat on breast than untreated bird (left). Birds shown alive on page 136

Making the most of MECHANIZED FARMING



BETTER MACHINES MEAN BETTER FARMING TIMKEN BEARINGS MEAN BETTER MACHINES

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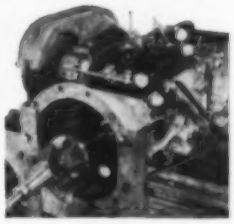
Two west coast farmers developed this giant plow to uncover valuable farm land buried deep under sand left behind by floods. Pulled by a string of four or five big diesel tractors it cuts a six-foot furrow to turn up the buried treasure. And due to its special two-way design it can turn over a field without leaving "dead furrows" or "back furrows".

This giant plow is another example of how increased mechanization pays off on the farm. To help *you* make the most of mechanized farming leading implement manufacturers mount moving parts on Timken® tapered roller bearings. With Timken bearings your equipment is ready to go when you need it. Frequent delays for lubrication are eliminated. Breakdowns prevented. Towing speeds increased.

2. BETTER TRACTORS COMING UP!

This testing machine is used in the Timken Company's laboratories to measure the strength and rigidity of tractor gears, shafts and housings under full load. It's another example of the way engineers at the Timken Company work hand in hand with tractor and implement manufacturers to bring you farm machinery that will run better, last longer.



3. MAKE YOUR OWN POWER SEEDER

Farmer David Youngs of Ohio made this power grass seeder out of a five gallon paint can, an old hand grass seeder and a gear box from an old wringer. It holds a half bushel of seed and its controls can be reached easily from the tractor seat.

$10 FOR IDEAS: Do you have an idea like this on making the most of mechanized farming? We'll pay $10.00 for each idea that we accept and publish. Send photo of implement and description to the Timken Company, Dept. SF-3, Canton 6, Ohio.

4. HOW TO SPOT A GOOD BUY

You'll know you're getting your money's worth if the equipment you buy is mounted on Timken roller bearings. Timken bearings reduce wear, take both radial and thrust loads, minimize friction and normally last the life of the machine. Always look for the "Timken Bearing Equipped" label. It's your clue to top value. The Timken Roller Bearing Company, Canton 6, O. Cable address: "TIMROSCO".

Tapered Roller
TIMKEN BEARING
EQUIPPED

This symbol on a product means its bearings are the best. Look for it when you buy.

NOT JUST A BALL ◯ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◯ AND THRUST →◯← LOADS OR ANY COMBINATION →◯←

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VELVET-LIKE in smoothness . . . RUBBER-LIKE in toughness

IT'S REAL FUN TO PAINT WITH THIS NEW BRUSH—With Pittsburgh's new FLEET-WING Wall Coater, paint goes on far more easily and quickly. Here's a brand new painting tool that is astonishingly light and easy to handle. Covers 7 inches in width at one stroke.

CLEANS IN A JIFFY—New *rubberized* Wallhide is ideal for a home full of lively youngsters because it can be washed so easily. Even stubborn stains such as grease, crayon, ink spots can be cleaned off without harm to the surface.

● What a finish for toughness and beauty! Pittsburgh's new Wallhide *rubberized* Satin Finish comes up smiling after countless rugged bouts with hard-playing youngsters! The *rubberized*, non-porous surface of this revolutionary new wall paint resists dust and dirt—won't chip, crack or rub off—stay beautiful and fresh-looking through years of hard usage. Washes off quickly and easily. Even inexperienced painters get a color-perfect finish. Ask your Pittsburgh Paint dealer to show you the wide variety of modern, attractive colors.

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- To withstand wear and abuse
- For amazingly fast drying
- For non-cracking flexibility
- For long-lasting beauty and protection

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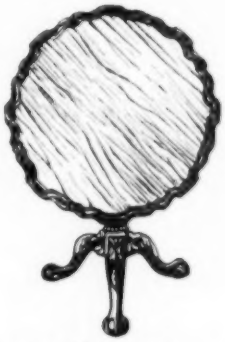
Answers to

[*Questions on page 131*]

1. Trestle table, so named because of the cross brace supporting the legs. It is used as a desk or as an occasional table

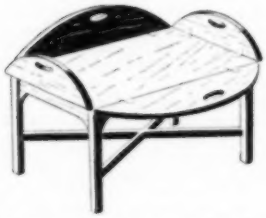
2. Drum table, so named because of its round shape, and deep apron for drawers



3. Piecrust table gets its name from the fluted edging resembling a piecrust edge

4. Pembroke table may be round, oblong, or oval in shape, but it always has drop leaves. Named after the Earl of Pembroke

table quiz



5. Butler table. The top of this table is actually a removable serving tray. All four of the sides drop flat to form round top

6. Dough table has a bin under hinged top, which was used originally for storing bread dough and flour in Colonial kitchens

7. Butterfly table. The supports for the drop leaves are shaped like butterfly wings

8. Console table. This name doesn't mean "sympathy," of course. Actually the name is a French word meaning bracket. END

Hot Quaker Oats Gives 4 Things Every Mother Wants for Her Children

Leading University proves delicious Quaker Oats the best of all 14 leading breakfast cereals in life-giving protein!

MUSCLE
Protein is muscle food. Your youngsters need it to develop muscular strength.

POISE
Protein is nerve food. Your youngsters need it to develop a well-poised personality.

BRAIN
Protein is brain food. Your youngsters need it to help the growth and health of brain cells.

STAMINA
Protein is power food. Your youngsters need it to keep up their animal energy and fight fatigue.

You, Mother, want to rear your youngsters into fine, outstanding citizens, blooming with health! So much depends on food! So much depends on protein! Because so often the weaker people of the world are protein poor!

So mark well this proof of hot Quaker Oats' benefits to your family!

Yes, 14 nationally known breakfast cereals, both hot and cold, of all shapes and kinds, were put to a test by a leading State University. And Quaker Oats came out Number One in life-giving protein.*

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No wonder doctors say the more often youngsters eat a good oatmeal breakfast, the better they grow!

And for you, Mom and Dad, there's more energy, more stamina, in nourishing oatmeal, than any other whole-grain cereal! And Quaker Oats' richer protein benefits youngsters and adults alike.

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**Results published on Page 163, Vol. 16, No. 2 of "Food Research", a nationally known scientific journal.*

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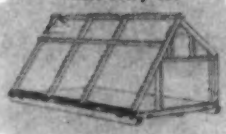

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All bugs aren't bad

[*From page 42*]

than their elders. Both lady beetles and their young are about the slowest and most deliberate in their feeding activities of all the predaceous insects.

Beauty is deceiving in another common family of insect predators. These are the lacewing flies or golden-eyed flies. Actually they are not true flies, but are closely related to some of our oldest fossil insects.

Like the lady beetles, lacewing flies are slow and methodical in their feeding habits, and prefer aphids as food. Their young aren't beautiful, as the drawing plainly shows. But few predators of any kind excel lacewing larvae in ferocity. They are equipped with a pair of strong, curved jaws which hold their prey helpless. When the victim is just an empty skeleton, it is cast aside, and the search for another unfortunate catch often starts at once.

The true bug known as Perillus is a specialist among the predators. Instead of seeking a variety of food, it lives almost entirely on larvae of the once-common

> **A good listener is not only popular everywhere, but after a while he knows something.**
> —*Wilson Mizner*

Colorado potato beetle. Unlike the other insects we have discussed, it has the piercing-sucking mouth parts which lie within a tapered and jointed tube (proboscis). To keep its prey under control, the Perillus frequently lets it dangle in mid-air, suspended only by the proboscis through which the bug is feeding.

This bug obtains both food and color from the unfortunate larvae on which it feeds. It has been shown that the yellow carotene of the prey is used directly and without change to give this predator its distinctive coloration.

"Little dandy" is a good way to describe the Orius bug. Although not much larger than the head of an ordinary pin, it is one of our really common and important insect predators. Its small size does not prevent its attacking a wide variety of immature insects and insect eggs. In fact, a hungry Orius can make you jump by appearing on your arm and trying to feed with its usual aggressiveness and ferocity.

Among the Orius bug's common victims are corn-borer eggs, young borers, and ear worms. The adults and their young have similar feeding habits and are commonly found together.

The Lydella fly is an introduced parasite of the European corn borer. It is a close relative of some of our native parasites. It is the only fly among the several imported corn-borer parasites which have become established in several areas of the Cornbelt.

Although it has become fairly common in some areas, there is ample evidence that the Lydella fly *is not the cause of the general decline in corn-borer populations during the past two years.* If it continues to thrive and spread, it *will* have a beneficial suppressive effect on corn-borer populations.

In spite of the publicity it has received, some authorities doubt that it is the best of the borer parasites.

The examples described here and illus-

trated on pages 42 and 43 are barely the start of a long list of predaceous and parasitic insects. Robber flies are large, awkward flies which capture their prey in flight. Dragonflies, or devil's-darning-needles, are notorious predators which capture all of their food on the wing. They even attack bees, with beekeepers sometimes suffering losses from their activities.

Hover flies are common and beautiful forms which in their larval stages feed largely on aphids. The cicada killer is a large wasp which catches cicadas larger than itself to provide food for its young.

So far, we have played up the predators and pretty well by-passed the parasites. This does not mean that parasitic insects are not important. Actually, they also are very numerous and of great benefit to us. We have indicated that the individual parasite usually destroys only a single host insect. Some parasites have an even lower batting average, as many of them develop in a single individual of the host species.

Many parasitic insects are extremely selective as to the kind or stage of insect they will attack. This is usually an advantage when the importation of a natural enemy is being considered for the control of a special pest.

How much good do predaceous and parasitic insects do? It is not easy to give a specific answer to this question. For example, the number of individuals a single predator will normally destroy during its life is very hard to determine. Often the experimenter is hard put to provide enough food for his experimental insects. Besides, the insects keep on eating whether the experimenter is there to watch them or not. However, there is another way to get a partial answer to this question.

The capacity to reproduce is very well developed in all insects. Several authorities have made careful calculations which led to results that are almost beyond belief by most of us.

One entomologist tells us that the maximum reproduction potential of a pair of flies and all their offspring during a single season would cover the whole earth with flies to a depth of 47 feet. Another has stated that a single aphid could lead to the production of 822,627,250 tons of plant lice in one year if there were no checks of any kind to hold them down.

Another calculation for an aphid is that a single female could, under perfect conditions, lead to the production of enough

[*Turn to page 144*

SUCCESSFUL FARMING

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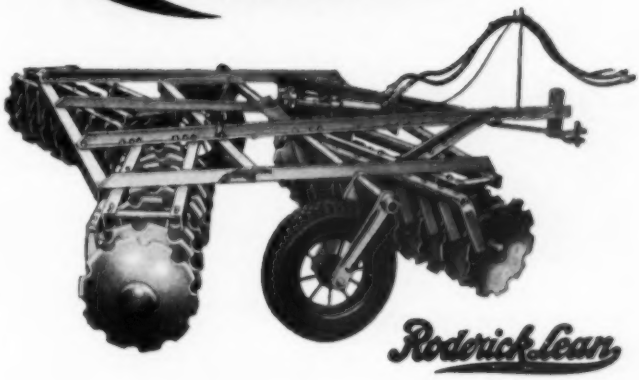

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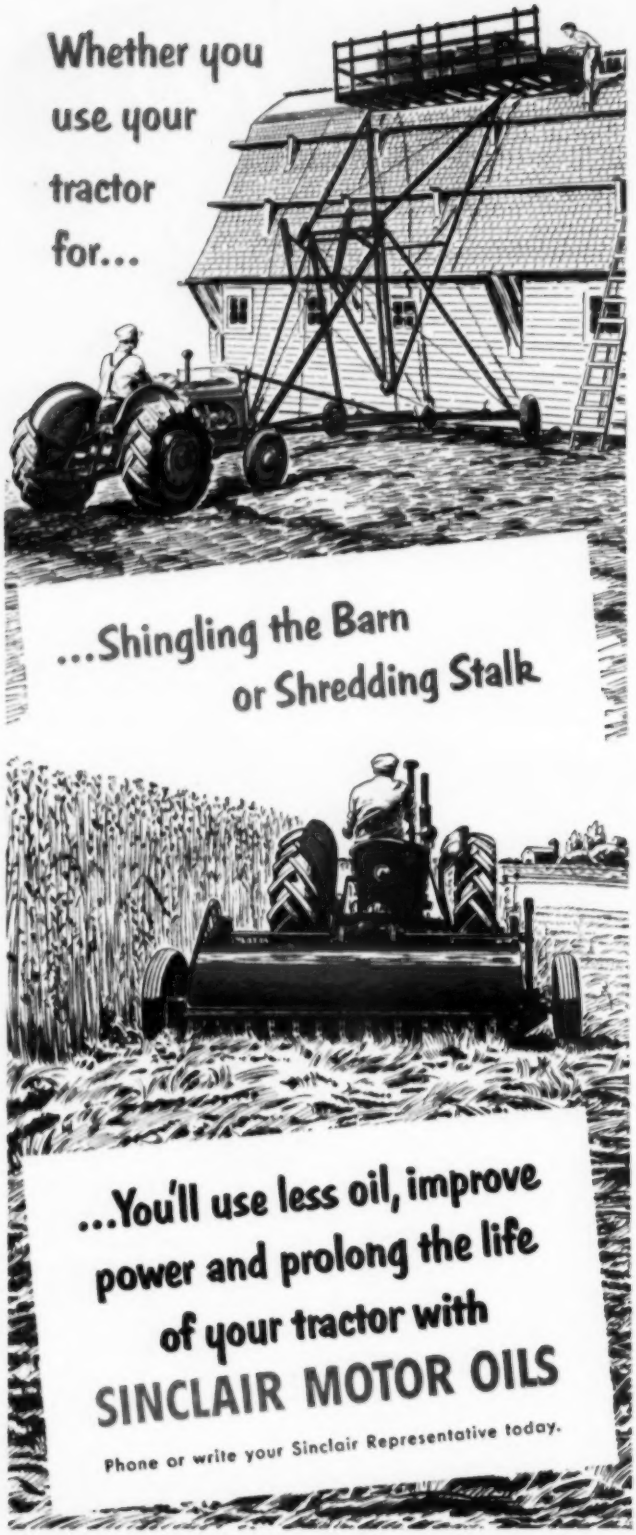

All bugs aren't bad

[*From page 143*]

insect protoplasm in a year's time to equal the weight of the entire human population of China.

Of course, these theoretical populations are never reached, or even approached. Many factors, such as lack of food and shelter, unfavorable weather, and diseases, serve to keep most species at reasonable levels. Certainly it would be nonsense to give predators and parasites all the credit. On the other hand, there is no doubt they often play very important roles. Their success, shown by their great abundance and world-wide distribution, is convincing proof of their importance.

Most of us have wondered why we have serious outbreaks of destructive insects every now and then. Insects like the green bug are so scarce for years at a time that we almost forget about them. Then, with little or no warning, they increase to tremendous numbers and cause widespread destruction.

> **The greatest mistake you can make in this life is to be continually fearing you will make one.** —*Elbert Hubbard*

We have already answered the common question: "Where do they all come from?" Perhaps it is more logical to ask: "Why don't we have a green-bug outbreak every year?"

Our main line of defense when weather and other conditions are favorable to green bugs consists of lady beetles and a tiny wasplike parasite. The catch is that neither of them is active enough to do much good when the temperature falls below 60 degrees. In cool seasons, when other conditions are suitable, the green bug simply gets out of hand because its natural enemies are resting.

When it works, biological control of insect pests is more or less permanent. The cost is relatively small and is usually nonrecurrent. Poison residues and insecticide-resistant strains of insects are of no concern. Most crops seeded broadcast do not readily lend themselves to insecticide treatments. Even though treatment is feasible, there is often a question of whether or not the pest is serious enough to justify the time and money required to apply an insecticide. Finally, some pests are so well protected by their host plants that the best available treatments just don't do the job.

In many cases the $64 question is: "What will spraying do to the predators and parasites?" Often failure to treat an infected crop is rationalized on the assumption that it will be harmful to the predators and parasites.

No doubt our modern insecticide treatments kill some beneficial insects. However, useful insects also have high reproductive rates, and, in general, they hold their own quite well. This is shown by their continued abundance on fruit trees and various other crop plants that are sprayed heavily and regularly for insect control.

Actually, there is good reason to think that the use of insecticides goes hand in hand with natural control. Only rarely does an insecticide treatment give a 100-percent kill of any pest. This means that

those insects not killed by the chemical go unchecked unless some kind of natural control takes over.

Also, a given number of predators or parasites will be far more effective against a small infestation following the use of a good insecticide than they will against a large, untreated population. In other words, predators or parasites will mop up the remnants of an infestation which originally was too large for them to handle.

Perhaps natural enemies are also playing a big role in preventing the rise of insecticide-resistant strains of insect pests. These resistant strains seem to arise because it is the more hardy or resistant individuals which survive the insecticide treatment and remain to propagate their kind. However, these individuals which tolerate poison do not have any special protection from their natural enemies.

We shall close with the case history of a little insect you probably never even heard of. This example illustrates the high points of this article.

The cherry case-bearer is an orchard pest which is a small moth in the adult stage. Although it was found originally in Pennsylvania, it has never been an important pest that far south. However, when introduced into four different fruit-growing areas in the North, it caused serious losses for several years in each area.

Each of these areas was characterized by cool, late spring seasons. This pest was sufficiently serious in each instance to justify intensive spray treatments aimed at its control. Although the sprays were only moderately successful, the case-bearer became a very minor pest in each of these locations after a few years. The reason for its decline was simple—over 30 different kinds of parasites were found to attack the cherry case-bearer.

Parasites provide the key to the above story. Evidently in the South these parasites always hold the cherry case-bearer in check. When this insect was introduced into a northern fruit-growing area characterized by cool springs, it temporarily got out of hand. However, its parasites sooner or later followed it to its new location and eventually built up their number. Both cool spring weather and heavy spray programs undoubtedly hindered parasite activities, but in the end the parasites won out.

Thus in each area the case-bearer was pushed into the role of a minor insect. It is ironical that some of these parasites attacked not only the case-bearer but some of its other parasites as well.

So you see, there are insects that work for you instead of against you. Without these helpful insects, our agriculture as we know it would collapse. No, all the bugs in your fields aren't bad. END

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Mr. Campbell says, "We've used American Fence on our farm all these years. There's nothing better for keeping livestock out of the apple orchard. It even discourages the neighbor's boys. At least we always have plenty of apples left for our 'Apple Butter Bee'."

If you need farm fence, see your American Fence dealer. He also handles poultry fence, barbed wire, and other American Steel and Wire Division products.

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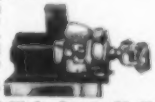

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Tops for tots

Comfortable—and sturdy—styles for active children to wear for bedtime, for play, for school, or dress-up or going-away occasions

4440. Little Boy Blue in his denim play outfit. Coverall has an elastic band in back. Jacket is square-cut, fits loosely, has patch pockets.

4825. Pedal pushers—like Big Sister's—could also be made full length. Short-sleeved blouse has back yoke for ease. Note pocket detail.

4190. Easy-to-make boy's pajama has slipover coat and elasticized-waistband trousers for sleeping comfort. Pattern offers both long and short sleeves. Pocket and neckband have top-stitching.

4831. Puff-sleeved pretty for the junior-size young lady. Circular yoke and Peter Pan collar are edged with embroidery ruffles. Ideal for warm or cool weather depending upon material used.

5874. Man-of-the-world plaid sport jacket with curved lapels, welt pockets. Shown with contrasting solid-color slacks, cuffed like Dad's. Jacket in matching color makes special-occasion suit.

5863. Dress-and-weskit combination styled for the petite. Contrast bodice has Peter Pan collar and puffed sleeves. Skirt has hem-line tuck for fullness. Double-breasted weskit is lined.

Back views and yardage for Advance Patterns on page 148

"We throw parties that solve problems!"

says Mrs. Wilmer Eaton Mallard

"Every Wednesday, we dress up and gather for a meeting of our Home Demonstration Club. We take turns demonstrating our own special knack for solving household problems," Mrs. Wilmer Mallard of Trenton, North Carolina, explained.

"Of course, on meeting days, we wouldn't be caught looking the way we usually do in the kitchen. So we primp and fuss, and try to look as if we haven't had a finger in the dishpan all week.

"And believe me, Jergens Lotion is a joy to have handy. No matter how much housework I do, my hands can always look like a lady's!"

"With three children, there's enough housework to keep me busy. But sometimes I help with the livestock, and garden. That's when my hands beg for Jergens.

"After dishwashing, I'd be lost without Jergens Lotion. It smooths away that sand-papery dry feeling you get from too much water and harsh soap.

"Even little Martha puts out her hands for Jergens Lotion. It's our favorite skin-softener...after wind-burn or sun-burn or when our skin gets dry from indoor heat!"

Jergens Lotion doesn't merely *coat* skin with a film of oil. It *penetrates* the upper layers and furnishes beautifying moisture. Try it. Only 10¢ to $1.00, plus tax.

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The secret of feminine poise is the knowledge that "everything is right"—seen or unseen. And on *those critical days* each month, Tampax can be a helpful contributor to that feeling of surety and confidence. For Tampax is "another kind" of monthly sanitary protection—neat, dainty and compact beyond the dreams of users of the older belt-and-pin type.

Invented by a doctor, Tampax is *worn internally* and is only a fraction of the size of the older type. Made of pure surgical absorbent cotton, it comes in slender insertion-applicators, and the wearer does not feel it when in place. You needn't even remove it during a tub, a shower or a swim!

Be like millions of other modern girls and women—*try Tampax*. No pins or belts. No odor or chafing. No embarrassment at disposal time. Tampax can cause no ridge-lines under dresses, slacks or swim suits. Sold at drug and notion counters in 3 absorbencies: Regular, Super, Junior. Average full month's supply will slip right into purse. Tampax Incorporated, Palmer, Mass.

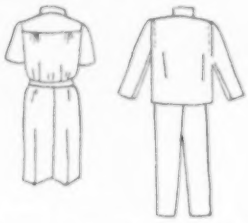
Accepted for Advertising by the Journal of the American Medical Association

Tops for tots

[*From page 146*]

4831. In size 6 this pattern requires 2¼ yards of 35- or 39-inch material without nap. Pattern is 25 cents in sizes 2 to 8.

4190. Size 4 requires 2⅝ yards of 39-inch material. Pattern is available in sizes 2 to 14 and is priced at 15 cents.



4825. Size 6 requires 3⅛ yards of 39-inch material (without nap). Pattern comes in sizes 4 to 12. Price is 25 cents.

4440. Jacket and overalls in size 3 need 2⅝ yards of 35-inch material without nap. Sizes 2, 3, 4, 6. Price is 25 cents.

5863. In size 4, dress and weskit require 2⅛ yards of 35-inch material. Pattern is available in sizes 2 to 8 for 25 cents.

5874. In size 8, jacket requires 2⅛ yards and slacks 2 yards of 35-inch fabric. Pattern comes in sizes 4 to 14; 35 cents.

These six Advance Patterns are available in local stores, or use the coupon below.

To: Successful Farming,
4703 Meredith Building,
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We have enclosed cash or money order in the amount of $.....
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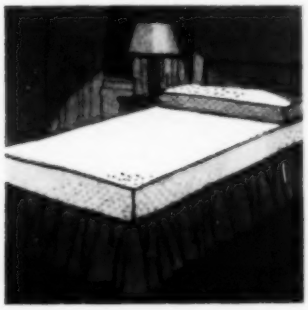
Co-ordinate the dust ruffle for the bottom edges of the bed to the rest of the room by making it of the drapery material used at the windows, or of old sheeting which has been dyed and ruffled.



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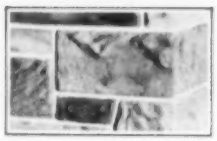

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Please tell me how I can reprocess my concrete silo by using Plastic 4-Y-1, and tell me the name of nearest dealer.

Name _____

City _____ State _____

Keep your carpet looking bright

[*From page 53*]

fan may be used to hasten the drying by forcing air over the surface of the rug. Air can be made to circulate *under* the rug, too, by using a vacuum cleaner operated "in reverse." Prop up first one corner of the rug and allow the warm air to blow under it for a time, then repeat with each of the other corners.

If heavy furniture must remain on the rug during the shampooing job, pieces of folded paper or cardboard should be put under the legs to avoid crushing of the pile and to prevent rusting of metal parts on the legs.

Cleaning rugs with powder. Absorbent-powder cleaners, especially for brightening rug surfaces, are available at many department, drug, and carpet stores. This type of cleaner, containing dry-cleaning solvent, does especially well on greasy soil. Since no water is used with it, it is the safest preparation to use on twist or frieze rugs, and on those containing questionable types of dyes or fibers.

Provide plenty of fresh air while using cleaning powders so the solvent can evaporate rapidly and so excess amounts of it won't be breathed in while you are working with it.

Of course, you should read and follow carefully the directions on the container, but in general a powder rug cleaner is used as follows: 1. Sprinkle it over a small area of carpet. 2. Brush the powder vigorously into the surface. (Inexpensive, long-handled brushes are often sold along with this type of cleaner.) Then, sprinkle powder on another small area and brush it in. *It is important* that you brush in the powder *before* it dries. 3. After powder has dried about one hour, remove it with a vacuum cleaner.

A good vacuum cleaner is essential to remove both the powder and the absorbed soil from the carpet after this treatment, so be sure yours is oiled and in top working order, and that the bag is emptied before you start.

Reminders for all-round carpet care. Regular care is, after all, the real prerequisite to fine-looking floor coverings. Here are some tips worth remembering:

1. Vacuum your rugs often. (This applies to new carpets, too!) Sharp bits of grit being trodden down into the base of the carpet damage the fibers and make them wear out faster. A once-over with your cleaner two or three times a week—or even daily—is said by rug manufacturers to be better than longer periods of cleaning done less frequently.

2. Turn your rug occasionally so distribution of wear and soiling will be more even. If your carpet is tacked down, rearrange heavy pieces of furniture once in a while—for the same reason.

3. Prevent excessive wear by using a rug cushion under the rug and keeping cups under legs of heavy furniture.

4. Apply first aid—with common sense—*immediately* when accidents result in stains on the rug.

5. Do *not* sweep your rug with a broom. Brooms may brush gritty dirt deeper into the rug, and sharp points of broomcorns may damage pile yarns.

6. Never beat or shake your rug. This may break down the backing and weaken the pile tufts.

Spots on the carpet

. . . and how to cope with them.

Urine. Sponge the stain several times with clean, lukewarm water. Use a clean, dry cloth to absorb as much of the moisture as possible. Apply Formula 1 (see below), as directed. Allow to dry thoroughly and apply Formula 2. Allow to dry thoroughly. Apply Formula 1 again. Sponge several times with lukewarm water. Blot up remaining moisture with dry, clean cloths.

Beverages. (Soft drinks, coffee, tea.) Sponge with clean, lukewarm water. Apply Formula 2.

Chewing gum. Use a noninflammable dry-cleaning fluid. Apply it on and around the outside of the gum. Allow it to remain 3 or 4 minutes. Lift off the gum with a dull knife. If the gum does not release easily, repeat.

Grease and fats. Sprinkle with rug powder, allow to stand a few moments, then take up with vacuum. Or use noninflammable dry-cleaning fluid and sponge with clean cloth. Repeat until the cloth shows no discoloration. If any stain remains, use Formula 2.

Fountain-pen ink or furniture polish. Use clean white blotters to get up as much of it as possible. Sponge it repeatedly with clean white rags, working from outside of the stain to the center. When no more stain is evident on the rags you are using, apply Formula 2.

Ballpoint-pen ink. Rub spot with petroleum jelly and then take grease off with noninflammable dry-cleaning fluid. Sponge with clean dry cloths.

Nail polish. *If your rug is pure wool,* apply nail-polish remover directly to the stain with an eye dropper. After a few minutes, sponge with clean white cloths, working from outer edge toward center of stain. *If your rug is not all wool,* wipe up carefully with dry, white cloths. Call for professional advice.

Formula 1

1 teaspoonful white vinegar
3 teaspoonfuls lukewarm water

Combine the vinegar and water, and apply directly to the stain with a medicine dropper. Using a clean white cloth, sponge the area with a rotary motion. Allow the solution to remain on the stain for about 15 minutes. Then sponge up with another clean white cloth wrung out of lukewarm water, brushing with the nap.

Formula 2

1 teaspoonful of synthetic detergent (the soapless packaged preparations used for fine laundering)
½ pint of lukewarm water

Pour the detergent in a jar. Add the water and stir vigorously until a clear solution results. (Amount of suds is unimportant.) Apply this solution, when recommended, directly on the stain with a medicine dropper. Using a rotary motion, sponge the stain with a clean white cloth, beginning at the outer edge and working toward center. Finish by wiping with the nap, using another cloth dampened in clean lukewarm water.

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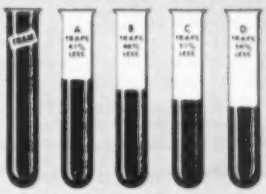

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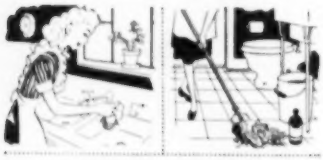
EVERY TIME YOU CLEAN



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"I'm an Rh-negative mother"

By Mrs. Leo Tapscott

Photograph: Pease

This mother of two healthy youngsters shares what she learned about the medically bright side of Rh

I have Rh-negative blood; my husband has positive. The parents of a lively 3-year-old son, we recently added to our family a beautiful, fat, and healthy baby daughter.

If I were to believe the flood of magazine articles on Rh that has swept the country recently, my children—at least my daughter—should have been medical freaks, stillborn, deformed, or saved only through the miracle of modern blood transfusion.

They were none of these things. Both births were, in fact, singularly undramatic. No jaundice, no tense moments with lives in the balance—just the conventional wails of indignant and very red babies. To this day, our little girl has never had a cold, and Steve's discomforts are largely of the sidewalk-meets-boy type.

Now you might say I am one of the lucky ones. "How about the other mothers and children who have run into real complications on this Rh business?" you ask me. "And how do you know you won't have trouble with future children?"

Obviously, I don't know the answers. I'm no authority on Rh. I am not, however, afraid of Rh consequences with any future babies. And if asking questions and reading so-called authorities is of any value, perhaps my experience will help other confused mothers.

The knowledge that I carry the Rh-negative blood factor came as a distinct shock. I'm disgustingly "average," and since I'd been told 6 out of 7 women are Rh positive, I had no idea the doctor's Rh checkup would find me different.

I'd already read something on the subject and knew that Rh is simply a factor that most people have in their blood. (Eighty-five percent of all white people, say the researchers, have this factor. The remaining 15 percent, who are without the factor, are called Rh negative.)

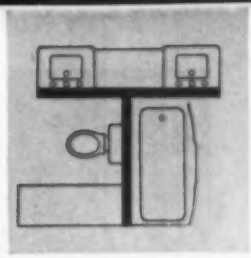
The important thing to me, at this point, was not *what* it is, but what effect such a blood factor, or lack of it, would have on my baby. I shakily put the question to my doctor.

"Well," he replied, "maybe none; maybe a great deal. It all depends on what factor your husband carries.

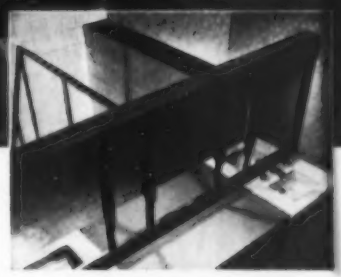
"It goes without saying," he explained patiently, "if both parents are Rh positive, their baby will be positive, and so

[*Turn to page 154*

CRANE'S FAMILY "T"



A NEW AND PRACTICAL IDEA FOR A BATHROOM THAT CAN BE ADAPTED IN MANY WAYS.



Here Crane, the preferred plumbing, is used to multiply bathroom convenience in a room designed to solve the "traffic" problems of a big busy farm family!

The first thing you might ask when you see this room is, "Why aren't all bathrooms like this?"

It's so simple . . . so practical . . . so common-sensible.

Crane's "T" plan simply divides one room into three rooms. Can't you just see the endless possibilities?

There'll be no "bottleneck" at breakfast time. This room can accommodate the whole family because you'll have separate compartments for bathing and dressing.

And what a wealth of opportunities it provides for decorating.

Whatever your plans, in Crane's line of preferred plumbing you'll find quality that is unmatched anywhere and exciting styling by Henry Dreyfuss. Best of all, Crane fixtures are available at prices to meet every budget.

Since bathroom fixtures are a permanent investment, would you want anything less than Crane?

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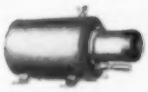
● This beautiful kitchen sink is the Crane *Sunnyday*. Crane quality sinks come in all price ranges—cabinet or counter top—up to 72 inches long. Crane-Line steel cabinets match to create beautiful, durable easy-to-clean kitchen ensembles.

● This is the Crane *Laundrette*. It's made of gleaming, scratchproof *Duraclay* (glazed earthenware). It is proof to acid, stain and thermal shock—and wipes clean with a damp cloth!

● With a *bigger, better* Crane-Line *Superior* Water Heater even the farm home always has *enough* hot water! For dishes, for laundry, for bathing and for cleaning farm equipment.



● *Crane-Line Pumps* are available in all capacities, for deep or shallow wells. Only Crane—through your Crane Dealer—supplies the *complete* water system, from pump to fixtures!

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Rh-negative mother

[*From page 152*]

there'd be no Rh trouble. If both are negative, the baby will be negative, and again, there's no danger.

"If the mother is positive and the father negative, their child could be either positive or negative, but here's still no risk," he told me.

"If, however," he continued, "the mother is negative and the father is positive, then complications *may* arise. But even this possibility carries safety clauses.

"In the first place," he said, "it's possible that a so-called 'positive' father may actually be 'heterozygous'—that is, he may have blood that carries both positive and negative factors.

"If your husband is heterozygous," said he, "there's still a 50-50 chance for you to have a normal, Rh-*negative* baby."

Since Leo, my husband, had had a previous Rh test, in order to give a transfusion, I was discouragingly aware that he is typed as "positive." But could he be a hetero-what-you-call-them?

The doctor suggested we have our son's blood tested. If he proved to be Rh negative, we'd know his daddy carried the "hetero" factor.

This test proved another disappointment. Stevie is a "positive." Of course, there's still a chance that Leo is "half-blooded" and carries the Rh-negative factor. But we can't prove it by our son.

The fact that Steve is such a healthy, active child (this is an understatement) puzzled me, too. If this Rh danger is all some writers say it is, why wasn't Steve affected by it, I wondered.

I went to the medical journals for this answer. Here, I was told that the first-born child of a blood combination such as ours is rarely harmed, unless the mother has, at some previous time, received a transfusion of Rh-positive blood.

What happens, they say, is this: When the blood of an Rh-positive person is introduced (through transfusion or pregnancy) into the blood stream of an Rh negative, the Rh-negative person may develop antibodies against the Rh-positive factor.

"And what," you say, being thoroughly confused at this point, "are antibodies?"

As nearly as I can tell you, they're a kind of protective mechanism, a defending army, so to speak, which our blood and tissues build up to fight invading forces in our bodies. Antibodies fight our diseases and infections for us. In an Rh pregnancy, however, they play a different and more sinister role.

According to most authorities, if the mother is Rh negative and the baby is positive—and if the Rh substance from this baby finds its way to the mother's blood stream, then her body may develop antibodies. These in turn pass through the placenta and attack the baby's blood stream, causing varying degrees of damage—all the way from simple anemia to severe jaundice and even damage to the brain. Antibodies, in themselves, don't harm the mother.

Though this may seem rather complicated to you, the fact is that Rh is a complicated subject, carrying a lot of "if's, and's, and but's." And if you're an Rh-negative mother, as I am, these very complications should relieve your mind,

for they show the positive-negative combination isn't always a fatal one.

In the first place, if you're like me, and have never had a blood transfusion, your chances of having one healthy child are very good. Of course, bearing that one child may do what the doctors call "sensitize" you so you might build up antibodies against a second child. Even that chance is not a great one, they tell me.

But to get back to my own story. In order to discover whether or not I was carrying any antibodies with my second baby, the doctor sent me to the hospital once every month beginning with my fifth month of pregnancy, to take "maternal-antibody-titer" tests. (You see how casual I became with those words!)

These tests are fairly painless—physically, anyway. The laboratory worker merely motions the mother to a table, fills a syringe with her blood, and sends her on her way, to await her report.

What the book doesn't tell you, of course, is the mental suffering a mother's bound to go through, waiting the outcome of that "painless" procedure. "Surely they won't find antibodies," you think, and maybe add a little prayer, "Please, God, don't let them find any."

But what if those tests do reveal antibodies? What can be done about them? Isn't there some way to get at the rascals *before* they hurt the baby?

The answer seems to be, unfortunately, no—at least not at this time. The tests are mainly used as an indication of what to expect when the baby's born—and so, to be ready with transfusions, if needed.

With the great progress made in Rh research since its discovery, however, most doctors seem optimistic about eventually finding something which will take the punch out of these antibodies before an Rh baby is born.

In my case, all of the antibody tests proved negative, showing I wasn't carrying antibodies, so the doctors weren't really concerned for the baby. Just to be on the safe side, however, they tested her right after birth, and found she had no antibodies; was, in fact, 100-percent red and healthy. (Incidentally, she's a "positive," too, which means she'll never have the worries her mother had.)

But I'm getting ahead of myself. What would happen, you may want to know, if I *had* developed antibodies? The extent of damage, it seems, depends on how high the antibody titer (or count) runs. In other words, the higher the titer, the more antibodies; the more antibodies, the more potential harm to the child.

[*Turn to page 156*

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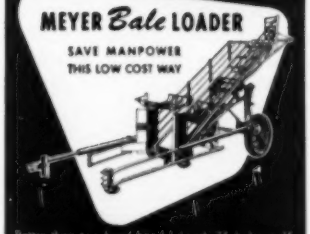

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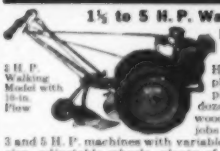

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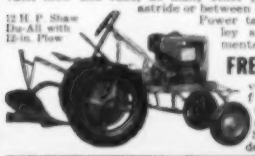

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Rh-negative mother

[*From page 155*]

Some (layman) writers have painted a pretty horrible picture of what may happen in cases of high-antibody titer. "Stillbirths are common," one recent periodical cheerfully advised its readers, "or if the baby survives, results may be severe jaundice, profound anemia, or even complete brain destruction."

What these happy souls fail to point out, of course, is that these are the rare cases. If the mother is carrying only a few antibodies, damage to the baby will probably be slight—a single transfusion, or possibly a few additional transfusions, should repair the damage.

A friend of mine, whose baby was jaundiced by Rh at birth, took that baby home from the hospital in 10 days. (He had one transfusion.) He now outweighs my baby by 2 pounds, at the same age. And as his mother points out, "If he were any livelier, *I'd* need a transfusion."

Of course, doctors know that *erythroblastosis fetalis* (the high-powered name given to severe Rh damage in babies) may cause some newborn deaths. However, many of these deaths have been prevented by the sensational "exchange transfusion" where a severely affected child is given a complete exchange of blood, as soon as possible after delivery. This has been reported especially successful when blood of an Rh-negative woman (not the mother) has been used.

How severely the baby is affected depends, as I have said, on how much damage the antibodies have done to his (or her) blood. In case histories I've read, anemia in varying degrees was reported, also jaundice in varying degrees of severity. There were a few rare cases of spasticity and mental retardation (a condition called kernicterus) reported.

Treatment in all these cases was given according to the damage done. With some children—as with my friend's—one or several small transfusions were all that were necessary for recovery. With the more severely damaged, an exchange transfusion was required. Not every single one of these "miracle" babies recovered, of course, but the average of recovery is very good.

Some writers I've read also indicate that it's common practice to bring about Rh births early, to stop further damage to babies believed to be affected by a high antibody count. I didn't find this true.

In general, the doctors I read and talked to agreed that taking a baby early by Caesarean section should be avoided, if the sole reason is to prevent Rh blood damage. Babies born much before term have too hard a fight for survival.

"When it seems that delivery three weeks early is advisable," a few doctors write, "labor should be instituted by medical induction" (that is, by drugs or means other than Caesarean surgery). Even this, however, doesn't appear to be common practice.

As for me, I prefer not to dwell on the gruesome aspects of the picture. I have two healthy children (one of whom is at this minute howling lustily for her bottle). What's more, I want someday to add to my family.

Two children, in my opinion, aren't enough trouble for a mother—even an Rh-negative one! **END**

New in homemaking

[*From page 30*]

Handy snack holder is this porcupine carved from California redwood. It is 4 inches high, 7 inches long; has holes for 24 gaily colored plastic toothpicks. Thirty

extra plastic picks included. Comes in either red or blonde finish. Price, $3.95. —*Bloomingdale's, New York; Marshall Field, Chicago; Wanamaker's, Philadelphia.*

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Kodak Pony 828, a smart, budget-priced miniature camera, makes photography more fun. Has an f:4.5 lens and a 1/200th shutter. With it, using eight-exposure rolls of film, you can make full-color 2x2-inch transparencies for slide projection, color prints, or black-and-

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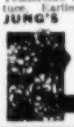

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How to use garden mulch

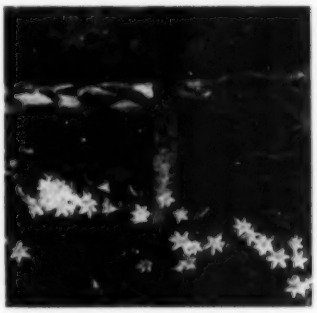
By William Gilman

If you've never mulched your vegetable garden, flower bed, or berry patch, why not try it this year? You can use almost any material for mulching. Waste hay is the old stand-by. You can also use compost, sawdust, ground corncobs, leaves, or straw.

Just about anything that will cover the ground between plants can be used. Even flat stones have been used between rows in perennial asparagus beds. Unlike organic mulches, stones won't decompose. Rotting mulches have to be replenished yearly, but they add valuable humus to the soil.

In contrast to a dead mulch, you can use a "living" mulch. For example, a bed of daylilies will prevent tight sod from growing up to a young tree. Daylilies will keep the soil loose and moist in exchange for the handful of fertilizer you should use so this mulch won't rob the tree.

Sod mulches can be used with larger trees. Plowing in apple orchards is giving



Living mulch of daylilies is preventing sod from closing in on base of young maple tree. Bed of lilies allows air and water to percolate through the soil to tree roots

Transplanting young tree is safer if you use a mulch to conserve moisture. Here's June planting of young white pine. Pine needles are used as mulch around base

way to letting the grass grow. This grass is then mowed and left in the orchard.

Lawn clippings make a good mulch, but you'll need enough to make a 4-inch layer. Otherwise the clippings will dry up and blow away.

Stalky materials are good because they don't mat down and can be topped off with leaves. For example, potato vines are good as a winter mulch for strawberries. But be sure the stalks are clean. Some may harbor bugs you won't want around next year.

Such acid-soil lovers as rhododendron and blueberries require mulches of peatmoss or pine needles. Add a little more every year as the material decomposes—it's something like the poultryman's built-up litter.

A mulch easy to obtain free in many areas is sawdust. It doesn't sour the soil as quickly as once feared. But you may have to add a nitrate fertilizer before the sawdust goes on if your soil isn't very rich. That's because the bacteria which decompose sawdust temporarily tap the soil's nitrogen supply. A top-dressing of 2 pounds of sulfate of ammonia per 100 square feet will do the trick.

In the long run, organic mulches enrich the soil as they decompose. What's more, they rot slowly, furnishing plant food as it's needed.

All through the growing season, a mulch will save low berries, tomatoes, lettuce, and other vegetables from dust and mud splashed by rain. There'll be less rotting and molding, also. Give mulching a try in your garden this year.

Photographs: Eleanor Gilman

Sod mulch is growing in popularity among apple growers. Grass is mowed and left lying under trees. Grass cover helps the soil retain moisture and keeps down weeds

Old hay makes a good mulch for the vegetable garden. Mulch keeps down weeds and prevents soil surface from baking. A mulch also protects vegetables from mud, dust

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"Any way you look at it, you'll gain by keeping at least 25 percent of your cropland in legume-grass mixture, if you are in a position to market some of the roughage through livestock."

Franklin Reiss, agricultural economist at the University of Illinois, makes that statement after a study of the records on 67 farms over a 7-year period.

There's been a lot of emotion wrapped up in the argument over the place of legumes and grass on a Cornbelt farm. Reiss made his study to see how many cold, hard facts he could find.

The farms selected were in 14 north-central Illinois counties. They were on good land and were all about alike in soil fertility. The major difference was in the share of cropland in legumes and grass. Of the 67 farms, 31 had less than 20 percent of the cropland in stand-over legumes; 26 had from 20 to 30 percent; and 10 had over 30 percent.

Here are the facts which may help you decide how much of your farm should be left green the year round:

First of all, corn yields were 12 bushels per acre higher and oats yields 13 bushels higher on the high-legume farms as compared with the low-legume farms.

The average per-acre corn yield for the last 3 years of the 7-year period on the farms with less than 20 percent legumes was only 66 bushels. On the farms with from 20 to 30 percent legumes, the yield jumped to 75 bushels, while the farms with more than 30 percent legumes had the highest yield—78 bushels.

Yield per acre, of course, is only part of the story. What about total grain production? This may surprise you, but *the farms that had between 20 and 30 percent of the cropland in legumes and grass still produced about the same total amount of grain as those with more land in grain.*

The farms with more than 30 percent legumes and grass had *lower* total grain production. But if you consider all feed produced, look at these figures: It takes about 1½ pounds of hay and pasture to equal 1 pound of grain in total digestible feed nutrients. On this basis, production per acre of total digestible nutrients was 2,828 pounds, 3,101 pounds, and 3,388 pounds respectively for the 3 groups of farms.

So much for yields. What about the money in the bank at the end of the year? That's the important consideration. This is the answer Reiss found:

The net dollars-and-cents return per acre was highest on farms in the 20-to-30-percent-legume group. *They returned $9 per acre more than the low-legume farms and $18 per acre more than the farms with the highest percentage of legumes.*

As Reiss points out, going above 30 percent legumes on good Cornbelt land seems to cut net earnings pretty fast. Above 30 percent, the extra acreage in legumes adds comparatively little to the yield of corn on the better land. END

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REN-O-SAL has given extra profits to thousands of successful poultry raisers from coast-to-coast. You can increase your profits, too, with **REN-O-SAL** tablets in the drinking water...or **REN-O-SAL** powder in the feed. Buy Dr. Salsbury's **REN-O-SAL** at your hatchery, drug or feed store.

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Dr. Salsbury's **CAN-PHO-SAL** relieves stuffy, congested nostrils. Easy-to-use inhalant, spray or nasal wash. Helps chickens feel better, do better.

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Mrs. Otto Grotefendt, Poultry-Raiser, Marine, Illinois, Uses **REN-O-SAL** Throughout Growing And Laying Periods For FASTER GROWTH and HIGHER EGG PRODUCTION.

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ABSORBINE

Pigs need less protein

[*From page 15*]

weight period—150 to 200 pounds—more clear-cut differences showed up between the pigs getting aureomycin and those fed rations in which no antibiotic was added. There was no significant difference in daily gains for the different protein levels in the presence of an antibiotic.

In the absence of the antibiotic, the different levels of protein produced differences in daily gains, with the 10-percent-protein level making best gains.

Of the protein-level combinations fed, the 16-13-10 percent did the best all-round job from weaning to market when no antibiotic was fed. With aureomycin in the ration, the 14-11-8-percent protein level combination did as good a job as higher levels of the protein fed in the tests.

Aureomycin added to the ration at the rate of 10 milligrams per pound of total feed appeared to exert a "protein-sparing" action when the 8-percent protein level was fed. Pigs getting the antibiotic gained an average of 1.88 pounds per day during the weight period from 150 to 200 pounds. The same ration without the antibiotic produced a greatly reduced average daily gain of 1.54 pounds during the same feeding period.

Exactly how the antibiotic works in its so-called "protein-sparing" role is not known. But the antibiotic apparently does something to reduce the amount of protein needed in the ration.

Even though pigs performed satisfactorily when fed the 8-percent protein level in a ration containing aureomycin from 150 pounds to market weight, Doctor Catron believes that level is too low for a general recommendation. Based on the experiments, he recommends a 14-12-10-percent protein-level combination for pigs in dry lot from weaning to market. The 14-percent level is for pigs from weaning to 75 pounds, the 12-percent level for pigs weighing 75 to 150 pounds, and the 10-percent level for pigs weighing 150 pounds to market.

Doctor Catron thinks it would be poor business to leave antibiotics out of growing-fattening pig rations. While not set up to measure specifically the effect of aureomycin, the experiments piled up additional evidence that antibiotics produce faster gains and improve feed efficiency.

On the average, aureomycin increased the daily pig gains by 0.12 pounds per day and saved 23 pounds of feed to produce 100 pounds of pork.

The average daily gain of all pigs on rations containing aureomycin was 1.67 pounds compared with an average of 1.55 pounds' gain per day for pigs receiving no antibiotic. Antibiotic-fed pigs required an average of 357 pounds of feed to produce 100 pounds of pork compared with 380 pounds of feed to do the same job when the antibiotic was absent from the ration.

Contrary to reports made by the United States Department of Agriculture in 1946, Doctor Catron, in his recent experiments, found no difference in the proportion of lean tissue to fat tissue when

the different levels of protein were fed to pigs on test.

The U.S.D.A. workers reported that rations containing 18 percent protein produced leaner carcasses than rations containing 13 percent protein. In the Iowa tests just completed, there were no significant differences in back-fat measurements between pigs fed the different levels of protein. Dressing percentage, body length, body depth, and percent of lean were not influenced by the protein content of the ration or by the presence of the antibiotic.

Doctor Catron emphasizes the fact that the results of the tests won't mean that you can go back to the old corn-and-water days of feeding hogs. Pigs need protein, but apparently not as much as we have been feeding in the past.

Lower protein levels won't produce satisfactory hoglot performance unless other important ingredients are present in the swine ration. You need B-complex vitamins including vitamin B_{12}, vitamins A and D, minerals, trace minerals, and antibiotics. An unbalanced ration for profitable pig raising is no better today than it was 10 years ago. **END**

Ketosis often hits best cows

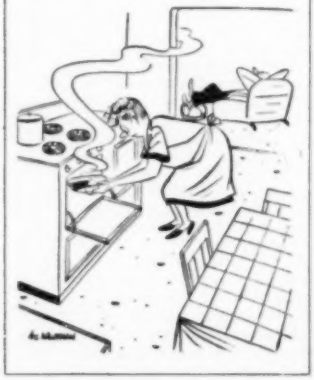
A University of Illinois veterinarian points out that ketosis may strike any cow in your dairy herd, but the most likely victims are your best cows that have calved recently.

Dr. R. D. Hatch says that if the disease strikes, milk production may drop off seriously. In severe cases cows may die during an attack unless they are treated early. Cows with mild cases may recover without treatment.

If you suspect that a cow has ketosis, call your veterinarian immediately. The cow may not recover unless she gets prompt attention.

To prevent ketosis, feed an adequate, well-balanced ration during the dry period so that the cow will be in good condition at calving time. After she has calved, provide her with a high-carbohydrate ration by feeding either molasses or plenty of corn and other grains. Don't take chances with your best cows. **END**

SUCCESSFUL FARMING



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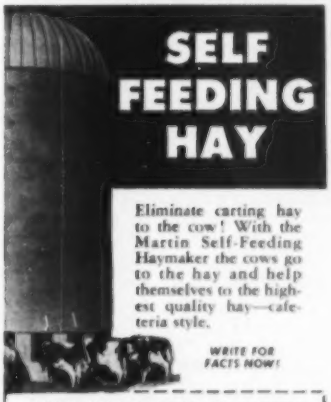

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SAYS . . . Mrs. Oscar Grosfield
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Farm Families Eat More Hot Quaker Oats Than Any Other Folks! It's Tops in Nourishing Protein!

"I always have good hot Quaker Oats on our breakfast table," says friendly, pert-looking Mrs. Oscar Grosfield, mother of husky 17-year-old Larry—pretty sweet-sixteen Naideen—and Robert, a livewire of seven years. "Farmers have long hard hours of work from sunup till noon and we need the lasting energy in Quaker Oats!"

Yes, it's not surprising that farm families eat more good nourishing Quaker Oats than any other folks. Did you know it actually supplies more protein benefits to help you do a full morning's heavy farm work than any other of 14 leading cereals? This was proved by a leading State University recently in an amazing test on 14 nationally known cereals. The University reported Quaker Oats first in life-giving protein benefits.*

Other tests prove that hot creamy oatmeal gives you more stamina, more energy than any other whole-grain cereal!

As a busy farm wife, you'll also appreciate Quaker Oats for its time-saving 2½-minute cooking . . . and its low cost of less than 1¢ a serving!

So start giving your family the well-fed energetic feeling they need for a full morning's hard work. Serve delicious Quaker Oats for breakfast every day! Remember to buy Quaker or Mother's Oats from your grocer now.

*Results published on Page 163, Vol. 16, No. 2 of "Food Research," a nationally known scientific journal.

Less than 1¢ a serving

Quaker and Mother's Oats are the same.

QUAKER OATS
THE GIANT OF THE CEREALS

Good morning!

[*From page 45*]

better. Then, don't eat breakfast for a day or two, or eat a skimpy one. The difference in the way you feel should make you a good-breakfast eater forever.

A study made in Iowa shows that 75 percent of the people used in the study were able to do more work after eating a good breakfast than after eating no breakfast at all. Hunger, whether you feel it or not, does set *in*! It's this hidden hunger that makes you cross in the morning, tired the rest of the day.

Hidden hunger affects your children, too. And it's a serious situation. Four out of every five children are sent to school after *a poor breakfast*. Startling, but true! Most teachers agree that a child, no matter what his actual ability, does better work when he has eaten a hearty breakfast. He's more alert, attentive, and well behaved. It's doubly important that your youngsters get a good breakfast if they have a cold, scanty lunch at noon. (See September, 1951, *Successful Farming*, "Our Farm Children—the Nation's Poorest Fed.")

If it's impossible to get your children up in the morning, perhaps they should be getting their extra 40 winks the night before—not in the morning.

Not many children, or adults either, really *like* to get up in the morning. But the smell of frying bacon and hot butterscotch rolls coming from the kitchen is the best alarm clock ever invented!

It's not only good food that's important as an early-morning awakener, but the *atmosphere in which it's eaten*. A pleasant table and pleasant company, even so early in the day, can make all the difference in a person's appetite and willingness to get up. Just because it's early is no reason for any member of the family, especially the cook, to look unattractive.

If you have trouble getting organized for serving an attractive morning meal, try the simple remedy of beforehand preparation. Set the table the night before, measure out the coffee in the pot, fix the fruit, and make the rolls ahead of time for quick reheating in the morning. By doing these things the night before, you can enjoy a few extra winks and still get a good-tasting, attractive breakfast.

Possibly most of your family does eat a good breakfast, but you or your teen-age daughter skip it because, "It's fattening!" Any doctor or food expert will tell you this just isn't so. You're not losing weight this way, you're merely starving yourself. Reliable studies have showed that *eating a hearty breakfast does not result in added weight*. It's not breakfast, but in-between-meal snacks and extra-hearty dinners and suppers (eaten to make up for a skimpy breakfast) that put on weight. The body quickly burns up calories you take in at breakfast because that's the only food eaten for 12 or more hours.

To avoid "sameness" in breakfast menus, plan them ahead, just as you plan other meals. There are over 100 foods you can serve for breakfast, and endless variations of them to help avoid monotony. Try the four menus we have suggested; then try some of your own.

Don't take our word for the difference a good breakfast can make in the way you and your family feel. You can prove it by making a good breakfast a daily habit.

Save $2.00 On This Home Mixed Cough Syrup

Easily Mixed. Needs No Cooking.

Cough medicines usually contain a large quantity of plain syrup—a good ingredient, but one which you can easily make at home. Mix 2 cups of granulated sugar with 1 cup of water. No cooking! Or you can use corn syrup or liquid honey, instead of sugar syrup.

Then get from your druggist 2½ ounces of Pinex, pour it into a pint bottle, and fill up with your syrup. This gives you a full pint of wonderful medicine for coughs due to colds. It makes a real saving because it gives you about four times as much for your money. Never spoils, and children love it.

This is actually a surprisingly effective, quick-acting cough medicine. Swiftly, you feel it taking hold. It loosens phlegm, soothes irritated membranes, makes breathing easy.

Pinex is a special compound of proven ingredients, in concentrated form, a most reliable, soothing agent for throat and bronchial irritations. Money refunded if it doesn't please you in every way.

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What is a good breakfast?

A good nourishing breakfast should have from one-fourth to one-third of the day's nutritional requirements. This means not only calories but essential foods as well.

An adequate breakfast for men and women who do physical work common to farming, and for growing children, should consist of: fruit; hot or ready-to-eat cereal; at least one egg with bacon, ham, or other meat; some form of bread and butter or margarine; beverage (milk for children).

Pancakes, waffles, French toast, and similar foods may be substituted for eggs and bread.

Morning Cheer Menu

Orange Juice
Corn Flakes With Brown Sugar
Shirred Eggs Broiled Ham
Butterscotch-Pecan Rolls Butter
Cocoa

Butterscotch-Pecan Rolls

Makes 30 rolls

Dissolve . . . **1 package granular yeast** in **¼ cup warm water,** or **1 package compressed yeast** in **¼ cup lukewarm water**
Scald . . . **1 cup milk**
Add . . . **¼ cup butter**, **½ cup sugar**, **2 teaspoons salt**
Stir until dissolved.
Cool milk mixture to lukewarm.
Add . . . **2 cups sifted all-purpose flour**
Beat well.
Add dissolved yeast and **3 eggs,** blending well
Add . . . **3½ cups sifted all-purpose flour** to form soft dough
Cover and let rise until doubled in bulk.
Turn out onto floured board.
Divide dough in half.
Roll out into rectangles (16x20 inches) about ¼ inch thick.
Spread each half of dough with: **2 tablespoons melted butter**, **1 cup brown sugar**
Roll up like jelly roll and cut into 1-inch-thick slices.
Cover bottoms of two 9-inch square pans with: **½ cup melted butter**, **¾ cup brown sugar**, **1 cup whole pecans**
Place rolls in pan.
Let rise until doubled in bulk.
Bake at 350° for 30 minutes.

Shirred Eggs

Put . . . **2 tablespoons cream** in each muffin cup
Add . . . **2 eggs** in each muffin cup
Salt and **pepper** tops lightly.
Bake at 325° for 30 minutes or until set.
Sprinkle top with: **crumbled corn flakes** mixed with **melted butter.**

[*Turn to page 166*

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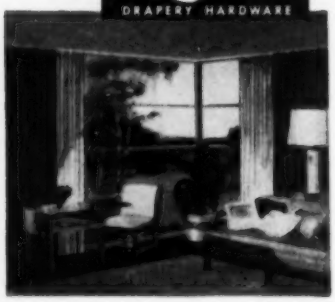

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☐ Please send me your new free guide, "How to Make Curtains, etc." ☐ I am enclosing 25c: please also send your booklet of draping ideas: "*Smart Window Styling.*"

Name_____

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City_____ Zone____ State_____

Good morning!

[*From page 165*]

Breakfast Cocoa

Serves 6

Combine 5 to 6 tablespoons cocoa
4 to 6 tablespoons sugar
1/8 teaspoon salt
Stir in . . . 3½ cups milk
Heat to boiling *but do not boil.*
Beat with rotary beater.
Serve with **marshmallow** in each cup.

Hearty Send-off Menu

Tomato Juice
Fruited Farina With Brown Sugar
Griddle Cakes With Bacon,
Sausages, and Syrup
Coffee

Fruited Farina

Serves 4

Heat to scalding over hot water:
2 cups milk
¼ cup evaporated milk
Add . . . . . ¼ teaspoon salt
1 tablespoon sugar
¼ cup quick-cooking farina
Cover and cook for 5 minutes, stirring occasionally.
Add . . . . . ¼ teaspoon cardamom seeds
½ cup currants
Serve in big bowls.
Top each with **pat of butter**
Sprinkle with:
brown sugar
cinnamon
Serve with **cream.**

Favorite Griddle Cakes

Makes 6 to 8 medium-sized cakes

Sift together:
1¼ cups enriched flour
½ teaspoon salt
1 tablespoon baking powder
1 tablespoon sugar
Combine 1 beaten egg
1 cup milk
2 tablespoons melted shortening
Add to dry ingredients, stirring just until flour is moistened.
Bake on hot, ungreased griddle. Griddle is hot enough when a few drops of cold water dance briskly on surface.

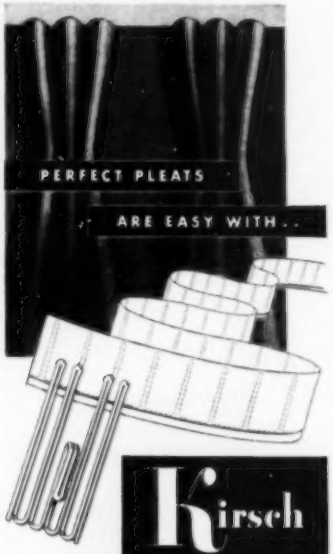
Sunrise Special Menu

Mixed Fruit Cup
Corn Waffles Sausage Patties
Strawberry Preserves and Butter
Vanilla Eggnog Coffee

Corn Waffles

Makes six 4½x5½-inch waffles

Sift together:
1 cup flour
½ cup yellow corn meal
1 tablespoon baking powder
2 tablespoons sugar
¾ teaspoon salt
Cut in . . ⅓ cup fat
Combine 1 beaten egg
1 cup milk
Add liquid to dry ingredients.
Mix well.
Bake in hot waffle iron.



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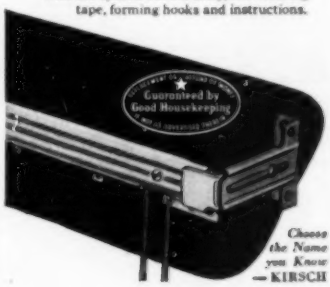

Choose the Name you Know
—KIRSCH

Mixed Fruit Cup

Cut ..... **grapefruit** in half, making a "saw-tooth" edge
Take out sections and clean out pulp.
Fill cups with:
grapefruit sections
orange sections
Tokay grapes
Top each cup with **maraschino cherry.**

Vanilla Eggnog

Makes 4 glasses

Beat ..... **½ cup sugar** into
3 egg yolks
Add ..... **¼ teaspoon salt**
Stir in ..... **4 cups milk,** slowly
Cook in double boiler until mixture coats spoon, stirring constantly.
Cool.
Add ..... **⅛ teaspoon salt** to
3 egg whites
Beat stiff.
Add ..... **¼ cup sugar**
Beat well and add to custard with:
½ teaspoon vanilla
Mix thoroughly.
Chill before serving.

Bright Start Menu

Baked Apple With Cream
Scrambled Eggs With Canadian Bacon and Cheese
Quick Cinnamon Coffeecake Butter
Milk Coffee

Baked Apple With Cream

Serves 4

Wash ..... **4 apples**
Remove cores.
Place in deep baking dish.
Place in center of each apple:
2 tablespoons brown sugar
½ teaspoon butter
Pour ..... **1 cup water** around apples
Cover and bake at 375° for 45 minutes.
Serve cold with **cream.**

Quick Cinnamon Coffeecake

Makes 8-inch square cake

Sift ..... **1½ cups all-purpose flour**
1½ teaspoons baking powder
½ cup sugar
½ teaspoon salt
Cut in ..... **¼ cup shortening**
Combine **1 egg,** well beaten
⅔ cup milk
Add to dry ingredients; stir vigorously.
Pour in greased pan; sprinkle on top:
⅓ cup brown sugar
½ teaspoon cinnamon
1 tablespoon flour
1 tablespoon melted butter
½ cup chopped walnuts
Bake at 375° for 30 minutes.
Serve hot or cold.

Scrambled Eggs

Serves 4

Combine **6 well-beaten eggs**
⅓ cup light cream
¾ teaspoon salt
⅛ teaspoon pepper
Heat ..... **2 tablespoons fat** in frying pan.
Pour in egg mixture.
Cook slowly until set, stirring frequently.
Serve on warm platter.

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Dairy

Save colostrum by freezing

Here's how to make full use of the extra colostrum milk from newly freshened cows. E. J. Perry, extension dairy specialist at Rutgers University, advises giving this milk to older calves by mixing it with their milk or calf starter. Or, if no older calves are on hand, freeze the colostrum milk in the cold-storage unit and feed it later. Colostrum is rich in vitamin A and antibodies which protect against infection. It also has a laxative effect and is easily digested.

Electric shock keeps cows clean

An electric cow trainer (pictured below) is used by Craig Beane, Jefferson County, Wisconsin, to teach his cows to back up in their stalls to drop their manure in the barn gutter. The results are cleaner cows, less barn-cleaning work for Beane, and a higher-quality milk. Bedding also has been cleaner and drier since the trainers were installed.

Each trainer is an electric device shaped like a coat hanger. The shock comes from an ordinary, battery-controlled fence unit, using a 6-volt battery. The "coat hanger" is suspended over the cow's shoulder. When the cow humps to pass manure or urine, her shoulder comes into contact with the "hot" wire. The cows soon learn to back off into the gutter to avoid the shock.

The trainers made it possible for Beane to build his stalls about 5 inches longer than is normally recommended. The longer stalls cut down on teat and udder injuries as the cow's udder no longer hangs over the gutter edge.

Beane places the trainer 19" back from the cow's stanchion and 3" to 5" from her back. The height is adjustable. If one of his cows has a tendency to stand with her rear feet in the gutter, Beane places the trainer behind her. A few lessons are enough. The trainer is turned off at milking time.

Long milking injures udder

Leaving the milking machine on a cow too long can seriously injure the udder, according to an experiment at the Pennsylvania Agricultural Experiment Station. Each cow in the experiment was milked twice daily. Throughout the experiment, one teat cup was removed after 5 minutes, another after 10 minutes, the third after 15 minutes, and the fourth after 20 minutes.

At the end of 30 days, the cows were killed and the teat linings examined. Membranes of teats milked for 15 or more minutes were in poor condition, with acute inflammation near the base of the teat. White cells, indicating a diseased condition, were found in the milk from the inflamed quarters.

Watering cups worth extra cow

Ronald Everist, dairyman in Marshall County, Iowa, has found that watering cups in a dairy barn are worth as much as an extra cow. Owner of a 10-cow Holstein herd, Everist installed watering cups a couple of years ago rather than buy another cow to expand his dairy herd. "The watering cups have produced more extra milk than another good dairy cow," says Everist, "and they cost me half the price of a good cow today."—*D. W., Iowa.*

Crossbreeding boosted production

Results to date of the crossbreeding experiment with Holsteins, Jerseys, Red Danes, and Guernseys at Beltsville show that the 3- and 4-breed cows have produced slightly more milk and butterfat than their 2-breed dams. The experiment was begun by the U.S.D.A. Bureau of Dairy Industry in 1939.

All crossbred cows are tested at Beltsville as first-calf heifers, and are milked 3 times a day for 365 days. After they complete their first-lactation records they are sent to cooperators' herds for further study under more practical farm conditions. Here they are milked twice a day for 305 days or less, for several successive lactations.

At Beltsville, the 54 2-breed cows comprising the first cross produced, on the average, 13,006 pounds of milk and 585 pounds of butterfat. The average calving age was 2 years, 2 months. This was an average increase over their purebred dams of 2,868 pounds of milk and 143

[*Turn to page 170*

Photograph: Schneider

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Dairy

[*From page 168*]

pounds of butterfat. The average calving age of the dams was 2 years, 4 months.

The 81 3- and 4-breed cows tested to date at Beltsville averaged 13,296 pounds of milk and 592 pounds of butterfat, starting at the average age of 2 years, 1 month. This was an increase over the 2-breed dams of 290 pounds of milk and 7 pounds of butterfat.

Under farm conditions, 3-breed cows continued to produce better than the 2-breed cows and the difference was even more striking than under the Beltsville experimental conditions.

New test for leptospirosis

The first reliable "complement-fixation" test for leptospirosis in cattle has been developed by Dr. Charles J. York of the Cornell University Veterinarian College. In perfecting his new method, York has worked with samples from cattle in various parts of the country. In New York alone he has found infected animals in 32 different counties during the past year. The first reported case of leptospirosis was found last year.

Doctor York's test provides the first satisfactory, reliable way to check animals suspected of having had this disease. As soon as commercial supplies of the necessary antigen are available generally, the test could be applied in diagnostic laboratories throughout the country.

With cooperation between herd owners, their veterinarians, and various state boards of health, leptospirosis probably could be eliminated before it gains greater headway, says Doctor York.

Leptospirosis in cattle causes death in about 5 percent of the infected animals, while those which recover are often permanently affected. Milk production is often stopped completely and abortion rate is high. An animal, apparently recovered and with no visible external evidence of the disease, can infect, for many months, an entire herd of susceptible cattle.

Why low producers don't pay

A dairy cow which produces only 200 pounds of butterfat a year seldom makes a profit for her owner, regardless of the production costs and milk prices. This analysis by the Bureau of Dairy Industry comes from records of production and feed consumption for 900,000 cows in Dairy Herd Improvement Association herds.

Cows which averaged 200 pounds of butterfat consumed $119 worth of feed and returned $108 over feed costs. On the basis of the long-standing rule that the cost of feed represents only half the total cost of keeping a cow, these cows did not pay their way by about $11. In fact, the bureau's analysis showed that in most areas a cow should produce much more than 200 pounds of butterfat a year to make a profit for her owner.

As the average-production level increased, the relationship of net income to feed costs became more favorable. Cows producing 370 pounds of butterfat consumed $147 worth of feed and returned $212 over feed cost to their owners, a net income of $65 per cow. Cows averaging 600 pounds of butterfat consumed $196 worth of feed and returned $435 over feed cost, a net income of $239 per cow.

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March

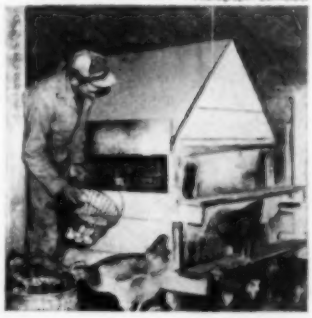
Poultry pointers

A boost for quality eggs. A recent Illinois egg-grading and -labeling law requires that all retail eggs must be candled and labeled as to size and grade before they are sold. Farmers who sell direct to consumers are exempted from the law. Five grades have been set up: (1) good for everything; (2) good for boiling or poaching; (3) good for cooking and baking; (4) edible, but not palatable—probably stale; (5) take your chances. The law also sets up 5 sizes and their weights per dozen: 30 ounces; 27 ounces; 25 ounces; 21 ounces; 18 ounces.

The law is aimed at protecting the consumer from buying bad eggs. In effect, the law will tend gradually to eliminate the poultryman with a few chickens who has been marketing his eggs every couple of weeks. Some chain stores have temporarily stopped buying eggs from farmers until special egg-buying and handling stations are set up. In the long run, the law will benefit the efficient producer who is following good egg-marketing practices.—*R. V. C., Illinois.*

Easy egg gathering. A homemade community nest (see picture below) makes egg gathering easy for Adolph Berendzens, Miller County, Missouri. The hens enter at the end of the nest, which is covered with strips of burlap sack. The eggs

Photograph: Schneider



are removed through an opening in the side of the nest, as shown. The side doors are hinged and are kept closed.

The nest is 4'x6' in size and is divided into 2 decks with 2 rows of nests to each deck. There is room for 5 to 6 hens in each nest. A steep tin roof prevents the hens from roosting on the nest.

Feed is big cost item. The present high cost of feed is a good reason why it should be used efficiently. Feed costs represent 41 to 62 percent of the total cost of producing eggs, says Emil Malinovsky, extension poultry specialist at Ohio State University.

Laying hens need all the feed they will

[*Turn to page 172*

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When you buy any rodenticide it will pay you to be sure it contains *warfarin*. Look for it under different brand names (complete or in form ready to mix) at drug, hardware, feed, seed, department stores.

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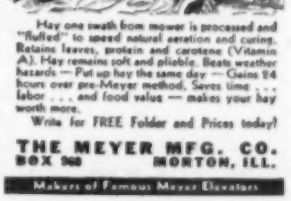

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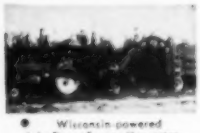
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Poultry pointers

[*From page 171*]

eat, and it should be kept before them at all times. Hens can't waste feed if feeders are of the right type.

One study showed that reducing feed intake 12.5 percent below what hens would eat free-choice would cut egg production more than 31 percent. Hens getting 75 percent of what they normally would eat dropped more than 50 percent in production. In general, the higher the rate of egg production, the greater is the efficiency.

Dried whey increased hatchability. The addition of dried whey to the ration of breeding hens reduces the need for meat products. Two years of tests were made at the University of Wisconsin. Results indicate hens given a breeding ration containing very little meat scraps—but supplemented with dried whey and whey-fermentation solubles—produced eggs with better hatchability than hens fed a ration containing fish meal and dried skim milk.

Five pounds of dried whey was added to each 100 pounds of a basal mash containing 4 percent meat scraps as the only animal protein. The dried whey had no effect on production but did increase hatchability.

Hens used for comparison were fed a basal mash plus 5 percent dried skim milk and 5 percent fish meal.

When 10 pounds of dried whey per 100 pounds of mash was used, it did not increase hatchability any more than when a smaller amount was added. There were indications that the 10 pounds provided more milk sugar than the breeding hens could use.

The tests also indicated it is more necessary to supplement the rations of breeding hens with vitamins during cold weather than during the later spring months. It is believed that some of the microorganisms which produce some of the necessary vitamins in the litter cannot grow and make these products during cold weather.—*B. R., Wisconsin.*

New source of vitamin B_{12}. A new commercial source of vitamin B_{12} for supplemental use in poultry-and-livestock feeds is now available to feeders and the feed industry. It is the result of recent research by the U.S.D.A. at its Western Regional Research Laboratory, Albany, California, in cooperation with the Department of Poultry Husbandry of Washington State College.

The supplement is the result of fermentation of sugar-containing by-products such as sugar and beet molasses (along with other nutrients) by selected strains of *Bacillus megatherium*. One or 2 pounds supplies the vitamin B_{12} required for a ton of mixed feed suitable for chicks, turkeys, or hogs.

The chief component of the present bacterial medium is molasses. Whey from cheese manufacture (which contains lactose or milk sugar) is also used.

Cellar is good egg-holding room. Looking for a place to build an egg-holding room? Try the northeast corner of your cellar. It's usually the coolest and dampest.

By building the room in the corner, only 2 walls are needed. Cinder blocks are satisfactory for this purpose, as they

resist moisture damage and make it easy to maintain humidity in the room.

According to J. C. Taylor, extension poultryman at Rutgers University, an egg room 6'x8' holds 40 cases. Be sure to equip the room with a good floor drain which can be washed frequently. Recommended holding temperatures range from 50 to 60 degrees, with humidity of 70 to 80 percent.

Upside-down eggs drop in grade. When you case your eggs, always pack them with the large end up. Believe it or not, eggs packed with the small end up will lose interior quality and definitely drop into lower grades. And that will cost you money.

At the Brockton Egg Auction, Massachusetts, a study was made comparing 200 properly packed eggs with 200 eggs packed with the small end up. Of the 200 properly packed eggs, 55 graded AA and 109 graded A. That compared with no AA and only 73 A-grade eggs among those packed with the small end up. On the other hand, the 200 properly packed eggs (large end up) had only 26 Grade B and 1 Grade C, while the other 200 contained 107 Grade B and 5 Grade C eggs.

If you are selling eggs locally, or if you are packing them in cartons for home use, it will pay you to pack them properly. Poor-quality eggs are not an inducement to higher egg consumption. After placing eggs in the case with the large end up a few times, you'll find it becomes a matter of habit.

Is Newcastle vaccination needed? That depends on two factors: Vaccination is desirable if your flock has had Newcastle disease in the past, or if you live in an area where the disease is prevalent.

Live virus vaccine seems to give the greatest protection when pullets are vaccinated between 1 and 4 months of age. As the vaccines can cause the disease, a veterinarian or a poultry serviceman should do the vaccinating.

Provide fresh, clean water. Don't depend on the livestock tank, pig trough, or a stagnant pool to supply water for growing pullets. If possible, pipe the water to the range. Running water will save a lot of labor. Or, a float fountain can be attached to a barrel which will hold enough water to last several days. Don't wear yourself out carrying water.

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O.D.—Brookville, Pa.
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"Any one of us can operate our Globe Milker. Even my 12 year old daughter can handle the Globe as good as anyone."

I.E.—Healey, Mo.
Dec. 7/51—8 cows
"If I am busy my wife does the milking, where if I didn't have Globe I would have to milk."

M.D.—Jackson Center, Ohio
Dec. 7/51—6 cows
"We like the Globe Milker because it's so handy to use. Any of the family can handle the Globe."

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L.U.—Pontiac, Ill.
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"We are very well pleased with our Globe. It is so simple and easy to keep clean."

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J.M.—W. Newton, Pa.
Dec. 10/51—11 cows
"I think the Globe 1-2-3-4 Rhythm Milker is the best milker. And it is easy to use and easy to clean."

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G.H.—Scales Mound, Ill.
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W.W.—Iron Mountain, Mich.
Dec. 8/51—8 cows
"My Globe has cut down milking time and the cows seem to enjoy being milked. I like Globe very much."

B.W.—Decorah, Iowa
Aug. 12/51—22 cows
"I used to be bothered with mastitis in my cows. Since using the Globe Milker I have not had this trouble."

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G.H.—Glenville, Minn.
Dec. 7/51—10 cows
"Globe is easy to handle. No messy pipeline, no confusing connections."

J.K.—Tunkhannock, Pa.
Dec. 21/51—8 cows
"I like the Globe Milker very much because you don't need any pipeline."

Mrs. C.I.—Port Orchard, Wash.
Dec. 18/51—6 cows
"Globe is easy on our cows — it is also so easy to keep clean and no trouble with long pipes and tubes."

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B.B.—Berry, Ky.
Dec. 12/51—8 cows
"We like the Globe Milker fine and we get more milk, and it is an easy machine to clean."

R.S.—Walla Walla, Wash.
Dec. 12/51—2 cows
"I think it is a real good milker. I would hate to be without it. My cows have increased production."

B.C.—Norfolk, Nebr.
"I've cut my milking time in half with Globe. Also, my cows gained in milk production when I started using it."

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H.H.—Campbellsburg, Ind.
Dec. 11/51—12 cows
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O.G.—Westport, Ind.
Dec. 6/51—5 cows
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Beef enough

[*From page 50*]

was an average daily gain of *3.40 pounds*. This spurt brought him out on top as the best steer in the herd.

What did this steer have that some of the others didn't? *He had what it takes for a grass-eating steer—capacity.* Look at the picture of Steer No. 7 again, on the first page of this article. He has a long head, big bones, long body and legs, and is deep. He was a "gross-grazer"—he ate whatever happened to be under his nose. *He is the type we need for all-grass feeding.*

In my judgment, this steer would have gained close to 3 pounds a day from the middle of August to well up into November—if we had kept him—provided grass and weather remained favorable. On this basis, he would have gone to market at over 1,300 pounds with a total grass gain during 7 months of *close to 500 pounds*.

Although Steer No. 7 made the greatest over-all gain, he suffered the sharpest drop in weight during the summer of any animal in the herd. Look at the chart on page 176 and note the plunge this steer made from July to August.

No other steer made such an extreme drop, but all followed the same general pattern. In former years—before modern pastures and fly sprays—we used to say, "Oh yes, the cattle slowed up during hot weather, but the bluegrass dried up and flies were bad, so we should expect slower gain."

Are flies and dried-up pastures the cause of summer slump? I don't think so. The last two summers have had no long, dry, hot periods. Ladino and mixed grasses have been abundant. Fly control, except for horseflies, was unusually good. A small river runs along our pasture on two sides, and there is high and low ground for shade and cool breezes. We had such an abundance of grass that we changed the steers to fresh pastures for short periods. They were always getting the very best from every field.

Under these ideal conditions, there seems but one, possibly two, explanations for this dropping off of gain. These two factors may be: horseflies—not as bad as usual last year—and summer heat.

It is my feeling that we will find most of the explanation of summer-weight slowdown centering around temperature. Recent experiments at the University of Missouri bear out this theory. The Missouri researchers find that cattle are very sensitive to temperatures that go much *above* the comfort zone, but show little discomfort when they go *below*.

This seems to contradict what we have thought and practiced for generations. We have spent millions upon millions of dollars to keep livestock warm and *but little to keep them cool*.

In winter, these steers had access to an open shed which, as far as I could tell, they never used. They stayed out in cold, rain, sleet, and snow. *They bedded on snow and continued to gain* right up to the first of the year—although we had some cold, snowy weather. The heavy winter shrink came between January 1 and April 14.

Our experiment stations could render some valuable service if they could come up with the cause of the summer slump and tell us how to avoid it. I consider it among our most important beef-feeding questions of the future. I went through

the records of all cattle in this test to see if all of them slowed up during July and August. I found only one exception.

What would happen to grass-fed steers if we could whip the summer-slump problem? For instance, if we could have had one steer weighing 800 pounds on April 14, and if this steer had gained each month equal to the top-gaining steer of that month, the steer would have weighed 1,400 pounds on September 22. *This would have meant a 600-pound gain.* Can we say this is our 160-day potential grass gain? It may be. Readers of *Successful Farming* will recall that our top steer last year made 450 pounds in 175 days.

Before you can approach that 600-pound grass gain, you have to become familiar with the type of steer to buy—like No. 7—*and the type not to buy.* A good example of the wrong kind is Steer No. 24. (Picture on page 50.)

Steer No. 24 made the *least* gain of any in the 1950-51 test—210 pounds or 1.31 pounds per day. He had a short head, small bones, fairly short legs, and a small barrel. Not features you want in a steer for grass feeding. This steer went out of condition easily. He had pinkeye at one time and went lame for a short period. He was an indifferent grazer and never appeared to be very hungry. He began slowing up in June and continued this trend until August.

It is difficult to say how much of this steer's poor showing is due to being out of condition and how much to poor conformation and poor grazing ability. Certainly there were steers in poorer condition than No. 24 when they began the test in April. Look at the picture of Steer No. 1!

Steer No. 13 is worth a second glance. On April 14, this steer weighed 960 pounds. He was the heaviest at the beginning of the 1951 test and weighed most at the end—1,300 pounds.

This steer's gain was very close to the 340-pound average. He gained at an average rate of 2.11 pounds per day. Steer No. 13 was very gentle. We could walk up to him in the pasture and he liked to be petted. He was a "lawn-mower" type of grazer—he ate whatever was in front of him—but was lazy about it. He was among the first to seek shade when loafing time started. He would lead the bunch to shade about 8:30 or 9:00 each morning.

Some of our visitors felt this steer would make top gain. At one time, from May to June, he made 4.44 pounds per day—which justified the feeling he might be a winner. He did a good job, but came out only about average.

As to type, Steer No. 13 can be criticized as being too coarse and "horsy." He has some of the desired characteristics of a grass eater—which we mentioned earlier—but he lacks depth and is very light in his hindquarters. Take a good look at his "before" picture (page 50), which is the way we saw him at the beginning of the test.

We have charted the rate of gain for Steer No. 15 on page 176 because he is the *one* steer that increased his rate of gain from July to August. He made about 2.75 pounds per day during that period. He is a steer of good conformation. This steer looked good both before and after the test. He ended up with a 350-pound gain.

The "before" picture of Steer No. 15 shows he wintered well. He had a good

[*Turn to page 176*

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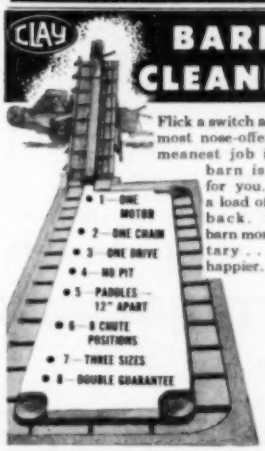

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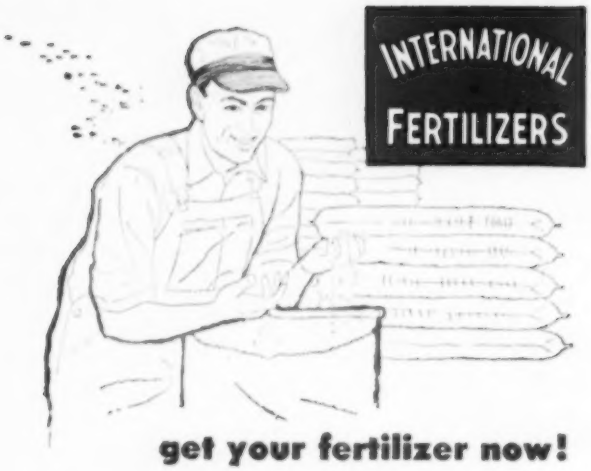

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SAMPLES for AGENTS

KRISTEE CO., Dept. 1755, Akron 8, Ohio

Beef enough

[*From page 175*]

coat of hair that looked alive and glossy. He carried a good grass finish at the end, but there were a number of steers more nearly finished.

My guess is that Steer No. 15 represents the kind of steer most farmers would like to buy—well balanced, thrifty, quiet, and ready to do business. I would have selected him as the kind to put in the feedlot. I think we would all like to know why he picked up his rate of gain during July and August while others were slowing up.

How about bloat? This question always comes up. *I have not lost a single steer as the result of a clear-cut case of bloat.*

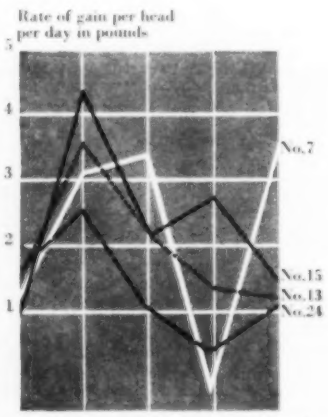
I think our pasture mixture relieved the bloat problem for us. This past year we had a much better balance between our grass—mostly orchard—and Ladino. Many times I watched the steers graze and, almost without exception, they mixed their grazing. They would take 1 to 3 bites of Ladino, then a few bites of grass. As a whole, I think they balanced their clover-grass consumption almost perfectly.

I was careful to fill the cattle before they went to the Ladino pasture. They were off pasture once each month for weighing, and were always thirsty and hungry when turned back to pasture. The procedure was to let them graze on orchard-grass pasture up to 1 or 2 o'clock in the afternoon and then turn them back on the Ladino.

When they grazed on Ladino in late afternoon, they simply took on a normal fill. The balanced grazing and care in getting them back on Ladino after taking them off for weighing account for the absence of bloat.

If at all possible, cattle on Ladino should also have access to other types of green feed. The steers in this test ate leaves from all kinds of trees and almost all types of weeds, including milkweed.

Another frequent question relates to my final judgment on the best way to winter cattle. At this stage of study my answer is this:



The graph above shows the rates of gain and loss during the summer of four steers in the test. Steer No. 7, winner in the test, gained the least during the summer

When the replacement cattle arrive in September, let them have the cleanup pasture behind the fat steers that have just been shipped. In late October or, still better, late November, turn them on bluegrass and or fescue for the winter period. Throw hay on the ground when necessary. See that it is well scattered—so timid steers get a fair break with the bosses.

Feed hay only when grass is unavailable, because of snow or sleet, or because the grass has given out. A second step would be to feed about 1 pound of cake per day when conditions are worse or as feed gets short. The net effect of such a plan will be this:

The steers will suffer heavy weight losses during long periods of snow and ice, or when quality of hay is poor. They'll also lose weight if the winter pasture is inadequate.

Steers will show little or no weight loss when they have plenty of summer-saved grass for winter grazing and when the winter is open; or, when quality of hay is good and cake is added to the supplement if needed.

Last winter I had short winter pastures which had been overgrazed during the previous summer. I had low- or medium-grade hay and more than the average amount of snow and ice. We also had the latest spring in 17 years. The steers received no cake.

As a result of these factors, the steers lost at least 100 pounds, but the wintering cost was very low and we got good gains during the summer, *reaching the usual final weight.*

This test has convinced me that we can winter steers for much less than we have previously supposed. Loose hay can be bucked into stacks or baled and field-stacked. Then it can be hauled and fed on the ground without cost for bunks or barns.

When necessary, cake can be spread on the ground as it is in the West. My farm is in north-central Missouri. *Just how far north this plan can be followed, I do not know. My guess is it is much farther than many of us now think.* Cattle run out all winter in Wyoming and Montana. Why can't they do the same throughout the Cornbelt? If the winter pastures have hills and hollows and some windbreaks, cattle prefer these to barns. *If you want proof, leave the barn door open.*

Some day, we will find that the trick of making cheap beef is the trick that keeps us in business. We must be open-minded and willing to take facts as they come—regardless of whether these facts agree or conflict with our ideas of former years.

Here are some ideas I think we can disregard:

1. "Cattle must never lose weight." Well, it might pay.
2. "We must protect our feed." Hay loss from weather may be cheaper than boards.
3. "Warm barns are necessary." There is plenty of evidence that cattle can stand cold better than heat.
4. "Cattle must be finished on corn." Market men are agreed that the *real* premium is being paid for grass-fat cattle.

Finally, here's my comment when someone asks me about the 1950-51 steer-feeding test—"I did little for the steers, but they did much for me." I believe the answer to producing *beef enough for everybody* lies in that statement. **END**

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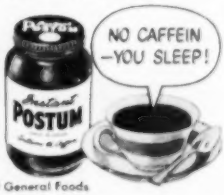

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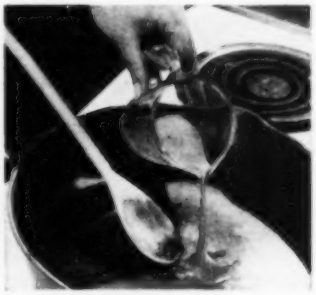
1 Place roast on platter in oven with heat off. Pour fat and meat drippings from roasting pan into measuring cup. Pour enough fat from cup (drippings settle) to leave ¼ cup fat plus all the drippings



2 Pour the ¼ cup fat and drippings into a large skillet. Then measure 1 cup warm water and pour into roasting pan, loosening every bit of browned meat and drippings in pan. Refill cup with water

3 Add ¼ cup flour to drippings and fat in skillet. Stir well with wooden spoon until mixture is smooth and light brown. Flour won't brown after the water is added, so be sure it is brown enough to suit you

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4 Gradually add 1 cup warm water to skillet, stirring briskly. Then add the water from the roasting pan, scraping every bit of browned meat into the skillet. The drippings give the gravy its good flavor

5 Over medium heat, bring the gravy to the boiling point. Cook it, stirring well, until smooth and the consistency of heavy cream. Add salt and pepper to suit your taste. The recipe makes 2 cups of gravy

Below are variations that'll give an extra-special flavor to the basic gravy recipe. The amounts given below are enough to flavor 2 cups of gravy. Just follow the basic recipe as given under the photographs above; then add one of the ingredients below when you add the salt and pepper. Heat the gravy gently, stirring briskly, until all of the ingredients are thoroughly combined and heated through.

Variations:

1. 1/4 cup thin cream
2. 1 cup sliced mushrooms
3. 2 tablespoons minced parsley
4. 2 tablespoons minced onion
5. 2 tablespoons chili sauce
6. 2 tablespoons sour cream
7. 2 tablespoons catsup
8. 1/8 teaspoon savory and 1/8 teaspoon thyme. END

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½ teaspoon salt
3 tablespoons shortening
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Butter or margarine
Prepared mustard
6 frankfurters

Sift flour, baking powder and salt into mixing bowl. Cut in shortening until mixture resembles corn meal. Add milk and stir to make soft dough that can be handled. Scrape ball of dough onto lightly floured board. Knead slightly, then roll into circle a little less than one-fourth inch thick. Cut dough into six pie-shaped wedges. Spread each wedge with butter or margarine and prepared mustard. Lay frankfurter on end of dough opposite point. Roll up and press point to seal dough. Place point-side down on cookie sheet. Bake 12 to 15 minutes in a very hot oven (450°F.). Serve hot with catsup or chili sauce.

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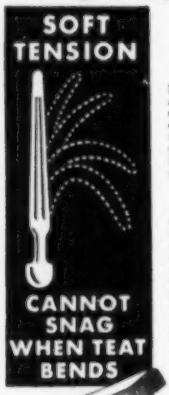

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Dairy Ass'n Co., Inc.
Lyndonville, Vermont

Bag Balm **TEAT DILATORS**

How to clean a blowtorch

Here are nine easy-to-follow, step-by-step photographs to help you do a thorough job of reconditioning and keeping your blowtorch in working order

1 To empty tank, remove the pump and drain out all the gas. Rinse out the sediment in the tank with clean gas. Empty the tank frequently

2 Check the blowtorch pump action. If leathers are dry, lubricate by drawing clean oil into pump

4 Hold a wood block against back of burner for support while tapping cleanout plugs loose. Remove the plugs with a screwdriver

5 To unscrew the burner, insert length of pipe of the proper diameter into the nozzle and use the pipe as a handle

7 Never use metal tool to clean needle opening. Tap the outside of the chamber with a wood block to loosen, dislodge carbon deposit

8 After carbon is loosened in needle and fuel openings, use compressed air to blow the carbon out of torch

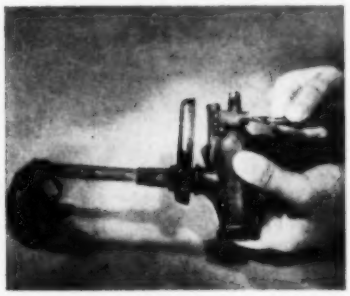
By Elma Waltner

If your blowtorch doesn't seem to be working as it should, chances are it needs a good cleaning to put it back in condition. Carbon will collect and the leathers will dry up in a torch that is used often.

You should give your torch a good cleaning fairly often. Completely dismantle the torch as these pictures demonstrate. Be careful not to damage the threads or fittings when you take the torch apart for cleaning.

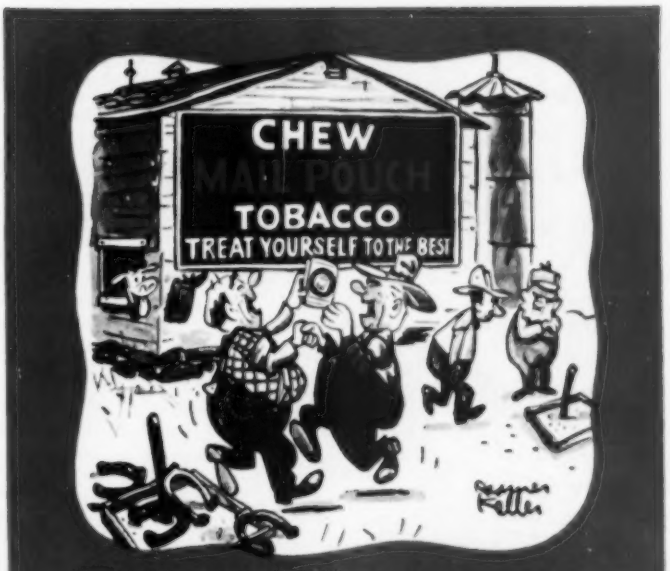
Photographs: Author

3 Remove the needle valve and check the orifice by holding it to light. A worn burner may need service by manufacturer



6 Cut loose the carbon deposits in the fuel opening by slipping a drill into the opening and then rotating the drill by hand

9 After cleaning, twist wick tightly and work back into feed-pipe hole. Screw the connections securely to stop leaks. END



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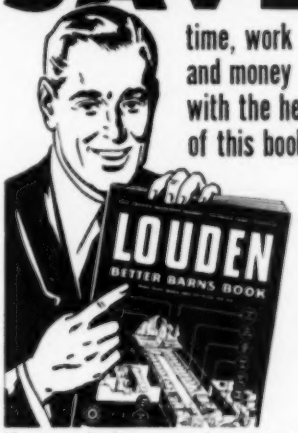
time, work and money with the help of this book



Here's a book you need — especially this year, when farm-hands are scarce. You're facing a tough problem — **how to increase production without enough help** — but you can do it with proper equipment. So send now for LOUDEN Better Barns Book. See how much you can save with the kind of barn and equipment you really need. This valuable 100-page book is yours for the asking — but 10c to cover mail cost will be appreciated. Send for your copy today.

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(*Signed*) Louis Bromfield—Malabar Farm

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Decorating advice. Stores offering **Successful Farming's** home planning service are listed on page 111. Visit store nearest you for help with decorating problems.

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Is this protection something *special* with Worthington? Yes, sir. In fact, Worthington *alone* gives you ALL 8 vital features in an irrigation pump.

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DEALER FRANCHISES OPEN

Veterinary

Sows need exercise

The other day we called at a farm where the owner was getting discouraged with the swine business. His sows had been farrowing small litters and many of the pigs were so weak they died shortly after birth. This seemed strange at first, as the animals were healthy, well fed, and well housed.

As things turned out, the housing was to blame for the small litters and weak pigs. The sows were confined so closely that they were unable to get the necessary exercise during their gestation period. Don't overlook this important angle in caring for your sows.

How to identify X-disease

Recently we have been hearing more and more about the so-called X-disease in cattle. The picture below shows a young bull affected with the disease. Early indications of trouble are the loss of hair and thickening of the skin into leatherlike

folds. This often causes the disease to be confused with mange and lousiness.

Other symptoms are watering of the eyes, rapid loss of weight, decreased milk production, slobbering, frequent urination, and a black diarrhea. Raised yellow spots often appear in various parts of the mouth. Abortions also are common. Animals may drop dead with little warning or linger along for several weeks. Few animals recover in an affected herd. Most are likely to die eventually or be sent to the stockyards.

Both sexes and all ages of cattle are affected. However, X-disease has not been reported in other kinds of livestock. The cause is unknown, but the disease evidently is not contagious, as efforts to transmit it have been unsuccessful. At present, the ailment is believed to be some kind of poisoning. There is no known remedy.

Proper ventilation removes odors

Having trouble with objectionable odors in your milk this winter? If so, barn ventilation may be the answer to your problem. Odors which cows breathe are likely to be given off with the milk a short time later.

Ventilation figures often are rather misleading. It's true a cow needs only 2 cubic feet of air per minute. However, 60 cubic feet of air a minute is usually required to keep a barn free of disagreeable odors. In mild weather, as much as 150 cubic feet of air per cow may be needed.

Homemade sprays

Every once in a while something serves to remind us that care has to be used in the compounding of homemade insect sprays. Recently we saw quite a sorry-looking herd of dairy cows that had been treated for lice with a home remedy mixed up by the owner.

The prescription called for equal parts of kerosene and drainings from the farm-tractor crankcase. We suspect that blistering, loss of hair in cold weather, and cracking of the skin caused the cows a great deal more pain and discomfort than had been suffered from the lice.

Lowered milk production cost the owner quite a bit to find out just how expensive his cheap home treatment really turned out to be.

Slaked lime caused fall

Most farmers know that slaked lime is good for absorbing odors around barns. However, we recently saw a cow which was crippled because slaked lime was used on a wet floor. The animal slipped and did a "split" on the slick concrete, fracturing the pelvis. As a result, the cow was through as a milker and had to be butchered.

Slaked lime quickly forms a slippery coating whenever it is sprinkled on a wet surface. Finely ground limestone is much better for use on floors, as its sandlike structure gives animals better footing.

What's the trouble here?

These pullets (pictured below) were doing well until a couple were found dead one morning. Three more died the next day and several others were sick. Ruffled feathers and drooping wings were characteristic of the trouble. A close examination showed many of the birds were affected with a bloody diarrhea and were inclined to sit around in a humped-up position. Within a short time 10 to 15 birds were dying each day. Can you name the trouble?

Such symptoms can indicate cholera, pullorum, coccidiosis, leukemia, or several other diseases.

In this case it turned out to be cecal coccidiosis, a disease caused by a parasite called *Eimeria tenella*. The disease is spread chiefly through the eating and drinking of material which has been contaminated by the droppings of infected fowls.

Several of the sulfas, particularly sulfaquinoxaline, have proved effective, both for preventing and treating the disease. However, following a sanitation program which includes range rotation, use of deep litter, proper ventilation, and avoidance of overcrowding is a more practical way to prevent coccidiosis in the average farm pullet flock.

Photographs: Bailey

What caused ruffled feathers and drooping wings shown in this flock of sick pullets?

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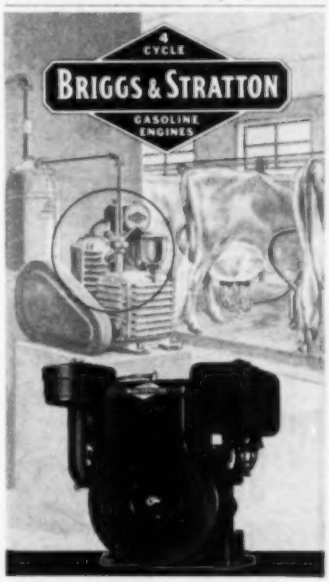

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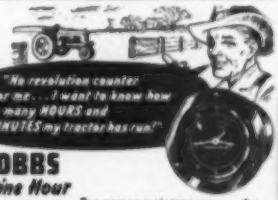

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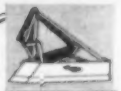

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KEEP IT MILKING

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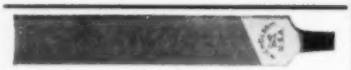

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Livestock

Winters cattle on corncobs

For many years corncobs have been considered a waste product with a rather low feeding value. However, Carl Voss, farmer in Thayer County, Nebraska, is feeding corncobs successfully to his cattle.

The cobs, says Voss, are cheap feed and they save a lot of hay. When he heard of research work at the University of Nebraska on feeding corncobs, he said he would be satisfied if his cattle would go through the winter and maintain their weight. Actually, he said, the cattle were in better condition in the spring than they were the fall before. He has been feeding corncobs the past two winters.

Voss first runs the cobs through a hammer mill. When they are fed in the bunk, some molasses is poured over them. The molasses makes the cobs more palatable and adds energy to the feed. For protein, Voss mixes urea with the feed. Mineral and salt also are available.

Experiment-station research indicates no hay or grain need be fed cattle when corncobs are used along with protein, minerals, and salt. When corncobs return as much or more than good hay, a farmer has a chance to increase his income.

Stiff-lamb disease

Michigan State College researchers have produced "stiff-lamb disease" by simply making up and feeding a vitamin E-free synthetic milk. This disease, laboratory-produced, is similar to the disease as seen under field conditions. It can be cured easily by mouth-feeding one or two doses of vitamin E.

Lambs so severely affected with the disease that they were unable to stand were completely cured within a very short time by a single dose of vitamin E, or alpha-tocopherol. It now seems that alpha-tocopherol will become the standard treatment for this disease.—*W. E. S., Michigan.*

Baby pigs need direct heat

Baby pigs born when air temperatures are below 45 degrees require direct supplemental heat during the first few hours of their lives to keep them from chilling. Installing a heat lamp in one corner of the farrowing pen, as is commonly practiced, is not enough. Heat must also be applied directly to the baby pigs.

Reporting on cooperative research with scientists at the Purdue Agricultural Experiment Station, J. G. Taylor, U.S.D.A. engineer, explained that baby pigs make no attempt to seek a warm spot in the pen the first few hours after birth. They must be placed and kept under the heat source. The lamps should be located so they furnish a constant supply of heat to the baby pigs from the time they are born until they are at least 12 hours old.

Sows frequently farrow in the center of the pen. In this case, a 250-watt infrared heat lamp should be hung over the center of the pen about 3 feet from the floor. If the sow moves to another location in the pen, the lamp should be moved or an additional heat lamp used.

After the pigs are 12 hours old, the in-

frared lamp may be moved to a protected corner of the farrowing pen. Pigs confined under the lamp for a few moments ordinarily will recognize it as the source of heat, and will spend a good part of their time in the corner. The protected-corner arrangement not only keeps the young pigs warm, but reduces the chance of their being lain on by the sow.

Antibiotics best in combination

Young pigs getting a synthetic-milk ration, deficient in vitamin B_{12}, give the best growth response when fed a combination of aureomycin and streptomycin, according to tests at the Wisconsin Experiment Station. The tests also showed that crude animal protein factor does not produce as high a rate of growth as did vitamin B_{12}.

Other studies indicate that growing pigs need a good supply of carotene (provitamin A) if they are to thrive normally. The cheapest source of carotene in pig rations is summer pasture or dried-legume forage which has been cured quickly and without weather damage.

Dehydrated alfalfa furnishes enough carotene for good growth when fed at 3 percent of the ration. A commercial pelleted alfalfa is adequate for growth, at the same level, although it actually contains about half as much carotene. Sun-cured alfalfa is adequate for growth, when fed at the 3-percent level, but will not maintain the desired quantity of vitamin A in the blood plasma and liver necessary for reproduction.

The researchers also found that 6 percent of dehydrated alfalfa in the ration doubles the storage of vitamin A in the liver, and dehydrated alfalfa always has more carotene than sun-cured alfalfa from the same field.—*B. R., Wisconsin.*

Efficient sheep production

Eldo Knoek, Peoria County, Illinois, gives improved pasture credit for helping him place high in Illinois Sheep Production Contest for farmers keeping between 30 and 75 ewes. Knoek had 15 acres of Ladino which he divided into 2 parts and grazed alternately. His flock of 58 ewes produced 5,700 pounds of lambs and 690 pounds of wool.

Other winners in the contest reported these hints for top sheep production: (1) Have ewes on good pasture and gaining weight at breeding time; (2) feed legume hay and grain all winter; (3) separate newborn lambs from rest of flock for a few days; (4) creep-feed lambs as soon as they will eat; (5) dock and castrate lambs when 8 to 10 days old; (6) dip or spray for ticks and treat for worms regularly; (7) use legume pastures for lambs as much as possible.

Many of the winners also used heat lamps or brooders for lambs in cold weather.—*R. V. C., Illinois.*

Beware of "lumpy jaw"

The American Foundation for Animal Health warns livestock producers to be on the alert against "lumpy jaw," a dangerous threat to cattle profits which is now causing losses in many parts of the country. "No cattleman's herd is safe from this disease," says the Foundation. The disease, also called "big head" and "wooden tongue," attacks both dairy and beef herds.

Typical symptoms are round, large swellings on the upper or lower jaws. The swellings may also develop on the tongue

[*Turn to page 186*

Minnesota dairyman sees ALL-WEATHER QUONSET® LOAFING BARN doubling his profits!

This L-shaped Quonset 32 keeps Louis Geronime's 30 Holstein cattle safe from wind and weather. Building is 248 ft. long over-all. 152-ft. wing at left is loafing barn; right extension contains feeding banks, milking parlor.

View of holding area where cows wait their turn to go into milking parlor at left; feeding banks are at right. Loose housing system used in adjacent wing allows approximately 100 sq. ft. per cow, plus space for herd sire and maternity pens.

Dairyman Louis Geronime's L-shaped all-steel Quonset 32 has proved such a successful year-round labor-saver that he claims it has cut his former work load in half. As a result, he is now doubling his herd, and expects soon to double his income from the increased production.

"Here in Rosemount, Minnesota," says Mr. Geronime, "the weather varies from 30° below in the winter to 95° in the summer. Regardless of the temperature, our herd is always comfortable. *Increased milk production is the direct result of our Quonset loafing barn.*"

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Livestock

[*From page 185*]

and throat. Victims of lumpy jaw are not able to eat properly or to produce efficiently. Milk from infected cows may be barred from public markets.

Lumpy jaw is caused by a germ which lives in the soil and in forage taken from contaminated soil. Germs enter the tissues through cuts and abrasions in the cow's mouth. When symptoms appear, the ailing animal should be separated from the rest of the herd at once. An early diagnosis is necessary to give your veterinarian a chance to start treatment or surgery. If treatment is delayed, the animal may have to be sent to slaughter. Applying control measures during the winter months will help prevent contamination of summer pastures.

Yeast no help in most rations

Yeast is not a necessary feed in most livestock rations, according to Gus Bohstedt of the Wisconsin Experiment Station. It is not needed to supply B-complex vitamins to farm animals, because good farm rations ordinarily have enough of these vitamins. The only practical use for yeast, he says, is to supply protein. At present prices, yeast is not an economical protein supplement.

Carefully controlled feeding experiments have shown that mineralized yeast feed had no appreciable effect on liveweight gains of farm animals. The same is true for fermented slop, or other feed with yeast or enzymes.

Bohstedt says fermentation adds nothing of value to the ration. In fact, fermentation subtracts carbohydrate material—leaving less feed energy in the ration.

Makes bathtub for hogs

Lyle E. Armstrong, who operates a farm near El Paso, Illinois, has found a portable bathtub a great help in controlling skin diseases of hogs. Last year every one of the 750 pigs raised used the bathtub with excellent results.

To make it portable, the tub is mounted on a platform, and this platform is put on skids. The platform is 10'x10' and is made from 1x12 native oak. The skids are 4x4 native oak.

The 6'x6' tub is located in the center of the platform, so there is room all the way around for hogs to get on the platform before entering the bath. The tub has a floor of regular 4" matched fir flooring. Four 2x10s are stood up on edge to form the sides around this floor. Then 1x3 strips are laid around the inside edge and 2x4s around the outside edge. The corners have extra blocks nailed on, and short braces are nailed across the corners to tie them more firmly.

"When the first water was put in," says Mr. Armstrong, "we put a little ground feed in to stop the leaks; after that, these never bothered."

Ten or twelve 175-pound pigs can get in the bath at the same time. If the weather is warm, the pigs use the bath—if chilly, they won't. The bath cost $37.50 to build.

"We think the bath pays dividends in controlling skin diseases. It saves labor in that it is not necessary to pen pigs up to treat them. Last, but probably equally important, they cool themselves off frequently in hot weather, eat more often, are more comfortable, and therefore gain faster."—*H. L. S., Illinois.*

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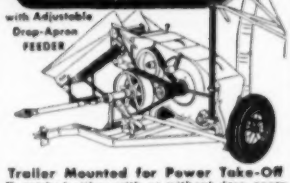

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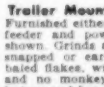

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Enjoy Successful Farming's helpful hints for better living each month.

MISCELLANEOUS

Outdoor Toilets, Cesspools, Septic Tanks cleaned, deodorized with amazing new product. Just mix dry powder with water, pour into toilet. Safe, no poisons. Save digging, pumping costs. Postcard brings free details. Bigness Laboratories, Dept. B-23, Chicago 22, Illinois.

Outdoor Toilets Cleaned, Deodorized! Amazing powder saves digging, pumping, moving. Safe, inexpensive. Send postcard for Free details. Willmette Farm Supply, Dept. 40, Wilmette, Illinois.

Cesspools, Septic tanks, Outdoor toilets—Cleaned-Deodorized. Amazing Product Saves Digging. Details. Dig No More Company, Dept. 24, 2611 Harriet, Minneapolis 8, Minn.

Don't Feed English Sparrows. Save feed. Make your own trap and catch thousands. Write for details.
Roy Vail, La Grange 1, Indiana.

Successful Farming advertising is guaranteed, see page 4.

AGENTS WANTED

Make money calling on friends. Show nationally advertised Greeting Cards—new All-occasion Assortment and knockout Barrel-of-Fun. Also sensational Pinafores & Parasols Personal Notes. All three dollar sellers. Up to 50c profit for you. Big line, includes Gift Wrappings, Stationery, Gift Items, etc. Get Three assortments on approval. Write Wallace Brown, 225 Fifth Ave., Dept. J-4, New York 10.

Do You Need Money? $40.00 is yours for selling only 50 boxes of our 300 Greeting Card line. And this can be done in a single day. Free samples. Other leading boxes on approval. Many surprise items. Experience unnecessary. Free samples. Personalized Stationery, Napkins. Write today. It costs you nothing to try. Cheerful Card Co., 519 White Plains, New York.

All-Occasion Greeting Cards that are such terrific sellers all you have to do is show them. 21 boxed sell for $1.00. Over 100 other wonderful boxes including Birthday, Get-Well, etc. Profits to 100% plus bonus. Write for free samples. Kit on approval. Regal Greeting Card Co., Dept. 151, Ferndale, Michigan.

Absolutely Free! Big package actual sample fabrics and style presentation of dresses, lingerie, hosiery, etc. Take orders. Commissions big. Send no money. Melville Co., Dept. 6719, Cincinnati 25, Ohio.

Strange "Dry" Window Cleaner. Sells like wild. Replaces messy rags, liquids. Simply glide over glass. Samples for agents.
Kristee 145, Akron, Ohio.

EMPLOYMENT

Your Personal Lingerie pays us bonus—extra cash besides—introducing sensational Curve-Tailored Idea to friends. Outfit Free. World-o-Star, Dept. G-13, Grand Rapids, Michigan.

Free Samples, and amazing plan, giving you gorgeous Dress without penny cost. Rush name today with dress size. Harford, Dept. G-335, Cincinnati 25, Ohio.

Sell finest nylon hosiery Guaranteed against everything, snags, runs, holes. Demonstration kit Free to you with actual sample stocking.
American Mills, Dept. 394, Indianapolis.

Make money introducing world's cutest children's dresses. Big selection adorable styles. Low Prices. Complete display free. Rush name.
Harford, Dept. G-3341, Cincinnati 25, Ohio.

SCHOOLS

Learn Auctioneering By Mail or in classes. Free sample lesson. Nationally known teacher. Write today. Nelson Auction College, Kenville, Minn.

FEATHERS WANTED

Bargains—Terrific Savings—Job Lots—Close-outs! Also save up to 50% on complete lines of Drugsends, Clothing, Hosiery, Notions, Drug Sundries, Toiletries, Novelties, Gifts, Jewelry, Television, etc. 2000 items. Send 25c for Illustrated Wholesale Bargain Catalog. Close-out Flyers, and Special "Get Acquainted" offer! Valuable merchandise certificate (worth many times 25c) included Free. Reliable Jobbers, 311-G, North Desplaines, Chicago 6.

At Last! Something New and Sensational in Everyday Cards. 21 for $1. Make Extra Money Fast! Show Satin, Velour, Metallic Cards. Get orders easy. Big line $1 Assortments. Scented Stationery. Personal Matches, Kiddie Books. Imprints Free. Two $1 boxes On Approval. Puro Co., 2801 Locust Dept. 256-C, St. Louis 3, Mo.

Make Money Fast—Sell big value Greeting Cards. Four new 21 card $1.00 All-Occasion Assortments, Birthday, Easter, Novelty cards. Gift Wrappings, Stationery, Notes. Unusual Gift Items. Over 100 fast-sellers. Amazing profits. Write for Samples on Approval and "Get-Started" plan. Hedenkamp, 361 Broadway, Dept. SC-16, New York.

New "Sponge" Wall Cleaner. Erases dirt like magic. Wallpaper, painted walls, ceilings. Saves redecorating. Lightning seller. Samples for agents.
Kristee 144, Akron, Ohio.

You can rely on the advertising in Successful Farming. It has received our guarantee. Read this guarantee on the index page.

Midwest Pays Top Prices, the highest in history. All new feathers are for defense purposes. Here's what Midwest pays you: New White Goose, $2.50 per lb. New Grey Goose, $2.25. New White Duck, $2.15. New Colored Duck, $2.05. For top prices, feathers must contain original down and be free from quills. Goose and duck quills, 20c per lb. To obtain highest prices for used goose and duck feathers, send samples for quotations. Midwest Feather Co., 2300 S. Calumet Avenue, Chicago 16, Ill.

Guaranteed top prices and immediate payments for feather shipments. Free tags. Ship to this old reliable firm. Used feathers—send sample for best price. No handling or commission charge. Progress Feather Co., 657 W. Lake St., Chicago, Ill.

Top Price for new goose & duck feathers. Ship parcel post. For old feathers mail sample in ordinary envelope to: Northwestern Feather Co., 212 Sertner, Grand Rapids 4, Mich.

Give Successful Farming, and your friends will be reminded of your thoughtfulness each month throughout the year.

RAISE 98% OR WE REBATE
SUPERIOR CHICKS PULLETS ASST'D $13.90 UP
We rebate on all loss over 2%, first 2 weeks, on AAAA grade. 200-336 egg blood may mean up to almost 100 EXTRA eggs per hen and double profit! Leghorns, Rocks, Reds, Hampshires, Wyandottes—all hatched or sexed. Also crosses and STARTED PULLETS. Hatches all year. Write today. FREE catalog.
SUPERIOR HATCHERY Box 212 Windsor, Missouri

BABY CHICKS, spec. $4.90 See Below
Sensational prices on Hayes Grade AA chicks! World famous for their excellent qualities—both for meat and eggs. Winners of many egg laying contests. Bred for high fertility. Will grow faster, live better, produce more eggs. 95% sexing accuracy guaranteed. You pay postage and C.O.D. fees. ORDER TODAY . . . avoid disappointment. Prices subject to change without notice. Orders for less than 100, add 1¢ per chick. AAA Grade chicks—from our best laying flocks are only 5¢ per chick more. Any you might lose the first two weeks, replaced free.

GRADE AA	Str. Hatch Per 100	Males Per 100	Pullets Per 100
Austra White, White Leghorns	11.90	4.90	24.90
New Hampshires, Barred, White, Buff Rocks, White Wyandottes, S. C. Reds	11.90	11.90	15.90
Mixed Heavies	9.90	9.90	13.90

Mixed: May be all pullets, males or Str. Hatch—½ heavy breeds, per 100 . . . $8.90
Light Breeds for Broilers, mostly males, per 100 . . . $4.90
"AAA" Grade chicks 5¢ higher—all losses replaced first 2 weeks free. Free Poultry Circular. Send for it today.
SCOTT HAYES CHICKS, Order Office
DEPT. 197 BIRMINGHAM, ALABAMA

HILE'S DUCKLINGS AND POULTS
Superior quality Pekin Ducklings and Bronze Turkey Poults at lowest prices. Indian Runner Ducklings. Chicks. Free catalog tells of excellent profits.
Hile Duck Farm, Box 5, Carey, Ohio

SUCCESSFUL FARMING

67 BREEDS Baby Chicks, Eggs, Crossbreeds, Ducks, Geese, Turkeys, Bantams. All rare and common varieties. Free handsome illustrated catalogue, colored pictures. Low prices.
Murray McMurray, Box B12, Webster City, Iowa

SERVICE BUILDING BOOK
Here's a book that shows you how to build better farm buildings. There are illustrations and floor plans of all types of buildings. Working drawings available for each. And a complete remodeling section helps you get more use from the buildings you have now. Only 50c.
Order your copy today from Successful Farming, 1403 Meredith Building, Des Moines 3, Iowa.

LARGE WHITE LEGHORNS
Also A-Whites, N. Hamps, W. Rks
U. S. Approved and Passed
Special Low Prices on Assorted
Air Shipment coast to coast
FREE CATALOG
Pullets 15.90 per 100 | Non-Sexed 9.90 per 100
Strtd. Pullets 30.90 per 100 | Cockerels 2.90 per 100
ORTNER FARMS BOX 413 CLINTON, MO.

MORE MONEY IN SHORTHORNS
For Breeding—For Feeding

America's oldest and most profitable breed of cattle offer greater size, fastest gains, quiet, easy-handling dispositions and widest adaptability. Check modern Shorthorn performance records including carlot and single steer Grand Championships OVER ALL BREEDS. Write us for illustrated literature and lists of member-breeders who can supply you with seed stock.
Subscribe to our breed publication SHORTHORN WORLD, $2.00 yearly. Write us
AMERICAN SHORTHORN BREEDERS' ASSOCIATION
Dept. 97, Stock Yards, Chicago 9, Ill.

RAISE ROSELAWN BIG TYPE LEGHORNS
WRITE TODAY! LEARN HOW TO CUT FEED COSTS—GET MORE EGGS—INCREASE PROFITS

Order Roselawn straight run chicks, baby pullets or started chicks. We will help you mature them at FEED SAVINGS OF 20% to 50%, like we have for thousands of other successful poultry raisers. Bred to lay more while using less they will earn you a second BIG FEED SAVING in the laying house. Here is your opportunity for BIGGER PROFITS.
$6.00 PER BIRD PROFIT—BIG DISCOUNTS
Customers report profits up to $6.00 per bird. You, too, will enjoy better results from Roselawn Breeding. BIG WORTH WHILE DISCOUNTS for EARLY ORDERS. WRITE TODAY!
EVERY CHICK IS PEDIGREE SEXED
EVERY BREEDER IS BLOOD TESTED FOR B.W.D.
FREE CATALOG REDUCED DISCOUNT PRICES Now Ready WRITE TODAY
ROSELAWN POULTRY FARM
Rural Route 105 Dayton (7) Ohio

Farmer's Trading Center

Advertisements using illustration or display (large) type, $6.35 per agate line. This classification is open to baby chick, poultry, livestock, pet stock, and schools. Straight classified, (no illustration or display type)—20 word minimum—all classifications—80 cents a word. Write Successful Farming, Des Moines 3, Iowa.

DOGS — PETS

Genuine English Shepherd and Collie pups—Guaranteed heeldrivers—(no foot-fig). Year's trial—training instructions (50,000 satisfied customers). Males—females—spayed females—$15.00. (Distemper vaccinated).
Emil Runft, Reinbeck, Iowa.

Genuine Eng. Shepherd pups. $12. Guaranteed heelers, watchdogs, happy guarding the baby. Training instructions. Few order partly trained $25.
Creekside Kennels, Brardsley, Minn.

Genuine English Shepherd pups—Distemper vaccinated. Guaranteed Heeldrivers. Year's Trial. Training Instructions. Males, Females, Spayed Females.
Highview Farms, Cedar Falls, Iowa.

"PR" German Shepherd Police Pups, $25.00 and up. United Kennel Club Registered. Send 25c for Pictures.
H. Schumacher, Ottertail, Minnesota.

Genuine English Shepherd Pups. "Distemper" Vaccinated, guaranteed heelers. Males, females, spayed females $15.00. Registered Collie Pups.
Dean Fleming, Traer, Iowa.

Sportsmen: 200 Pointers, Setters, Straight Cooners, Combination Hunters, Rabbit and Fox Hounds. Reasonable. List Free.
Ramsey Creek Kennels, Ramsey, Illinois.

English Shepherds—Border Collie Puppies. All ages, both sexes, choice colors, faithful workers, satisfaction guaranteed.
Fairmount Farms, Cedar Falls, Iowa.

Setters and Pointers, Fox, Coon and Rabbit Hounds, shipped for trial. Stanley Blake, Mgr. Blue Grass Farm, Kennels, Berry, Ky.

Want to buy good collie or shepherd puppies. Dept G. Box 777, Des Moines, Iowa.

PATENTS

Inventors: Learn how to protect your invention. "Patent Guide" containing detailed information concerning patent protection and procedure together with "Record of Invention" form will be forwarded upon request—without obligation. We are registered to practice before the U. S. Patent Office and prepared to serve you in handling your patent matters. Clarence A. O'Brien & Harvey Jacobson, Registered Patent Attorneys, 250-A District National Building, Washington, D. C.

Inventors: Without obligation, write for information explaining the steps you should take to secure a Patent on your invention. John N. Randolph, Registered Patent Attorney, 237 Columbian Bldg., Washington 1, D. C.

"Inventor's Guide" and "Record of Invention" free on request. Frank E. Lederman, Registered Patent Attorney, 154 Nassau Street, New York City.

Successful Farming guarantees every advertisement it prints. See page 4.

Inventors—If you believe that you have an invention, you should find out how to protect it. The firm of McMorrow, Berman & Davidson is qualified to take the necessary steps for you. Send for copy of our Patent Booklet "How to Protect Your Invention" and "Invention Record" form. No obligation. McMorrow, Berman & Davidson, Registered Patent Attorneys, 1156 Victor Building, Washington 1, D. C.

Inventors: When you are satisfied that you have invented something of value write me, without obligation, for information as to what steps you should take to secure a Patent. Write Patrick D. Beavers Registered Patent Atty., 930 Columbian Bldg., Washington 1, D. C.

You can rely on the advertising in Successful Farming. It has received our guarantee. Read this guarantee on the index page.

Renew your Successful Farming subscription early!

COONHOUNDS

Coonhounds, Combination Hounds, Fox-Hounds, Rabbit and Beagle Hounds A Specialty. Puppies all breeds. Price Reasonable. Free Literature and Pictures. Trial. Raccoon Mountain Kennels, Box 268, Albertville, Ala., Dupree Thomas, Owner.

Renew at least six weeks before your present subscription expires.

BEES AND BEE SUPPLIES

Bees, Good Side Line, Pleasure, Profit, crop pollination. Send $1.00 for book, "First Lessons in Beekeeping" and six months subscription. Free literature. American Bee Journal, Box M-4, Hamilton, Illinois.

Keep Successful Farming coming your way each month.

FOR FARM WOMEN

Looking for Bargains? Send for Free money-saving catalog from famous 64-year-old mail order company. Latest New York fashions. Cotton frocks from $1.98. Rayon dresses from $3.49. Genuine leather shoes from $2.29. Everything for your family, home. Satisfaction Guaranteed. Write National Beige Bess, 220-58 Belias Bess Building, Kansas City 9, Missouri.

Perfume "Breath of Flowers" Lovers of Perfume—Givers of Gifts! Three adorable drain bottles, beautifully boxed. Violet delicate, exquisitely dainty. Rose gently alluring. Bouquet sweetly spicy. Only $2.00 Tax Included Kurstek Laboratories, 1307 So. 58 Street, Omaha 6, Nebraska.

Free Catalog—Save on Cotton—Thrilling values for family and home—shirts, underwear, dresses, prints, towels, sheets, childrens wear. Money-back guarantee. South Carolina Mills, Dept. 228, Spartanburg, S. C.

Good Money in Weaving. Weave rugs at home for neighbors on $39.50 Union Loom. Thousands doing it. Booklet free. Union Looms, 80 Post Street, Boonville, N.Y.

Look Full fashioned nylon Mill rejects, 6 pr. $1. Imperfects 3 pr. $1. Select Imperfects, 3 pr. $2. Satisfaction guaranteed. Premier Sales, Box 8177, Chattanooga, Tenn.

Make Up To $45.—$55. Week as a Trained Practical Nurse! Learn quickly at home. Booklet free. Chicago School of Nursing, Dept. F-2, Chicago.

Money in New Grassless Doughnuts. Start in kitchen. No smoke. Sell stores. Free recipes. Cuilt Hay Co., 3605 South 14th Ave., Minneapolis 7, Minnesota.

Buttons by the Pound! New, stylish, fashionable. For sweaters, shirts, blouses, dresses, coats, everything. Full 1½ lb. almost 1,000 colorful buttons including sets. With four dozen fine assorted needles and 10 Magic Spools mercerized colorfast thread 1,500 feet in 10 colors. Wonderful variety colors, designs. Enough buttons for years. Sent for $1.49 plus COD postage. Better—save by sending $1.49 plus 25c—total $1.74—and we prepay. Order today. Money back Guarantee. The Button King, Hawthorne 10, New Jersey.

Outdoor Toilets, Cesspools, Septic Tanks cleaned, deodorized with amazing new product. Just mix dry powder with water, pour into toilet. Safe, no poisons. Save digging, pumping costs. Postcard brings free details. Burson Laboratories, Dept. B-22, Chicago 22, Illinois.

Exciting Cactus Offer: 7 rare dwarf flowering Cactus plants, including Sacred Mushroom, for $1. Cash orders postpaid. Resurrection Plant Free if prompt.
Aunt Pat, Edinburg 14, Texas.

Remnant Bundle mixed material 18 yds. $2.95 postpaid. Free bundle of scrap with every order. Money back Guarantee. Miller Mail Order, Box 7651, Kansas City, Mo.

89 Full size Jig Saw patterns of beautiful shelves, ornaments, toys, novelties. Plus "How, Where to Sell." Only $1.00. Mastercraft 34A, 7041 Ogcott, Chicago 31, Ill.

Tall Gals Free 24 page shoe booklet saves money. Thrifty styles in all sizes to 13 AAAAA to C. Write today. Shoecraft, 603 Fifth Ave., N.Y. 17, Dept. 4.

98 All New, full size lawn ornament and novelty patterns, up to 20" high. Only $1.00. Mastercraft 32A, 7041 Ogcott, Chicago 31, Illinois.

TRACTOR—AUTO PARTS

1952 Edition. It's New! It's Different! Get world's largest Auto Accessory & Parts Catalog and save money. 100 pages. Over 50,000 items, including Hollywood Accessories, Hi-Speed Equipment, Rebuilt Engines, all parts and accessories for all cars and trucks. We have that Hard-To-Get part! Jam packed with bargains. Completely illustrated. Send 25c (refundable). J. C. Whitney, 1919-AA Archer, Chicago 16.

New and Used Tractor Parts. Write for big, free 1952 catalog, tremendous savings. Satisfaction guaranteed. Central Tractor Parts Co., Des Moines 3, Iowa.

STAMPS AND COINS

"How To Recognize Rare Stamps." Free Book containing nearly 200 illustrations plus information every collector should have!
Kenmore, Milford, H65, N. H.

$10.00 each for certain Lincoln pennies; Indianheads $50.00. Send dime for catalogue listing prices paid. Lincoln Coin Company, Elkhart 42, Indiana.

Stamp Collectors. Free! Scott's International Album, Other big premiums. Full particulars with approvals.
Raymax, 70-AF Nassau St., New York 38.

65 BREEDS Chickens, geese, ducks, guineas. Pure-bred, hardy, Northern and most profitable. Higher quality baby chicks, eggs and stock. LOW PRICES. *America's Pioneer Poultrymen* — In business since 1893. Beautiful Catalog Free. Write Now.
R. F. NEUBERT Co., Box 26, MANKATO, MINN.

10 EXTRA with EACH 100 Ordered
STRONG, HEALTHY CHICKS
Barred and White Rocks, New Hampshires, S. C. Reds, White Leghorns, White Wyandottes, Rock X Hamps, Hamp X Rocks, Wyan X Hamps, Cornish X Hamps, Cornish X Rocks
$8.95 PER 100 LEFT-OVER HEAVIES
$12.95 PER 100
Write for complete price list on sexed chicks and breeds not listed. All chicks shipped plus postage, from U. S. Approved, Pullorum Passed flocks. Prices subject to change without notice. ORDER NOW. DON'T DELAY!
Mt. Healthy Hatcheries, Dept. SF, Mt. Healthy, Ohio

KIRBY POULTS ARE Profit Makers
B. B. BRONZE from BROWNING U.S. CERTIFIED STOCK
Mr. Turkey Grower—Our Broad Breasted Bronze—an outstanding value in choice market birds. Fast growth, uniform quality, economical meat production.
OHIO U.S. APPROVED-PULLORUM CLEAN
B. B. White Hollands hatched from Riverview R. O. P. Breeding Farm. Also Bourbon Small White, Slate, Black Kidypoults for real satisfaction and profits.
Send now for New Free Catalog
Kirby Hatcheries, Box 88, Urbana, Ohio

BABY CHICKS, spec. $4.90 See Below
Sensational prices on Hayes Grade AA chicks. World-famous for their excellent quality—both for meat and eggs. Winners of many egg laying contests. Bred for high livability. Will grow faster, live better, produce more eggs. 95% sexing accuracy guaranteed. You pay postage and C.O.D. fees. ORDER TODAY . . . avoid disappointment. Prices subject to change without notice. Orders for less than 100, add 1¢ per chick.
AAA Grade chicks—from our best laying flocks are only ½¢ per chick more. Any you might lose the first two weeks, replaced free.

	Str. Hatch Per 100	Males Per 100	Females Per 100
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Austra White, White Leghorns	11.90	4.90	24.90
New Hampshires, Barred, White, Buff Rocks, White Wyandottes, S. C. Reds	11.90	11.90	15.90
Mixed Heavies	9.90	9.90	13.90

Mixed: May be all pullets, males or Str. Hatch—heavy breeds, per 100 ..... $9.90
Light Breeds for Broilers, mostly males, per 100. $4.90
"AAA" Grade chicks ½¢ higher—all losses replaced first 2 weeks free. Poultry Circular. Send for it today.
SCOTT HAYES CHICKS, Order Office
DEPT. 187 UNION CITY, TENNESSEE

CORN CENTER DOIN'S

"They've about decided to give up checkers and go back to farmin' since they found out about BFG Power-Curve tires."

When you find out about fast-working, money-saving B. F. Goodrich tires, you'll use them for all your tractor work. Each rugged Power-Curve cleat is pointed with a hard, arrowhead nose that bites into the soil. The whole tread is rounded to dig in like a spade, give you full shoulder-to-shoulder traction. Every turn of the wheel counts because Power-Curve tires grip the soil and reduce slippage. And because Power-Curve cleats are actually higher in the center than those of the other two leading makes, these powerful tires give longer, trouble-free service. This means you save money. Examine Power-Curve tires when you're in the market for tractor tires. Compare them with other makes. You'll choose Power-Curve tires—made by B. F. Goodrich, First in Rubber.

An advertisement of The B. F. Goodrich Company, Akron, Ohio.

Farmer's Trading Center

Advertisements using illustration or display (large) type, $6.35 per agate line. This classification is open to baby chick, poultry, livestock, pet stock, and schools. Straight classified (no illustrations or display type)—20 word minimum—all classifications—80 cents a word. Write Successful Farming, Des Moines 3, Iowa.

LIVESTOCK

Registered and Non-Registered Wisconsin Holstein Calves—for higher production herds. Exceptional offering of choice Wisconsin Holstein Calves. Available in large quantities. Also some Guernsey and Brown Swiss. Vaccinated against shipping fever. Health sheet furnished. Well started—no milk required. Visitors welcome. Write or Telephone. J. M. McFarland & Sons, Watertown, Wisconsin.

Guernsey and Holstein Heifer Calves. Good, strong, carefully selected Guernsey or Holstein heifer calves, pasteurized, not subject to registry, $60 F.O.B., express car. Older calves higher, according to age. 10 to 15 delivered by truck on approval. Also a few Brown Swiss calves.
H. R. Lotdell, Mukwonago, Wis.

Free 114 page Veterinary Guide. Describes 95 farm animal diseases, newest sulfas, penicillin, etc. If no Peters dealer near you, write Peters Serum Laboratories, 8154 Mercer, Kansas City, Mo. (Peters family, world's first hog serum manufacturers.)

Cattle, Sheep, Hogs Permanently Identified! Rustproof Tamp-It-Proof Ear Seals stamped with name and number. Self-piercing humane inexpensive. Over 50,000 users! Free Samples. Catalog, write Dept. SUF 3, Security Seal, 144 W. 27 St., New York 1, N. Y.

Wisconsin Holstein and Guernsey Springers and Bred Heifers from selected herds. TB-Bangs tested. Our 40 years experience guarantees order shipments. Klein's Dairyland Acres, Tel. 3700, Menomonee Falls, Wisconsin.

Every product advertised in Successful Farming is carried under the guarantee on the index page.

Want Cheaper Beef Gains? Breeder's Gazette tells you how to get them. Subscribe today—12 issues $1.00; 60 issues only $3.00. Breeder's Gazette, Box 111, Spencer, Indiana.

Wisconsin Holstein, Guernsey and Brown Swiss heifer calves. Excellent quality. Write for free pictures and prices. Dairyland Cattle Company, 1203 West Canal Street, Milwaukee, Wisconsin.

Phenothiazine Powders: Plain (100.00%). Drench (99.00%). 100 pounds $92.95, fifty, $34.95, 25, $20.49, ten, $9.49, five, $4.95. Prepaid. Guaranteed. Southside Chemical Company, Petersburg 5, Virginia.

America's Leading Livestock Magazine. Serving entire industry since 1881. $1.00 a year. Three years for $2.00. Breeder's Gazette, Dept. S-5, Spencer, Indiana.

Have you read the Successful Farming advertising guarantee on the index page? It means exactly what it says. It is worthwhile to you.

Wisconsin Blue-Ribbon heifer calves. Holstein, Guernsey or Brown Swiss. Every calf Guaranteed and backed by our fifty years experience in world-wide cattle distribution. Buyer references furnished. Write for Free literature and price list. Walter H. Lehmann, Dept. 7, Box 53, Watertown, Wisconsin.

Buy Ayrshires Now. America's fastest growing dairy breed. Good individuals, heavy milkers with 4%, test and udders that wear. Highest carcass value of any dairy breed. Write for literature or list of breeders near you. Ayrshire Breeders' Ass'n, 15 Center St., Brandon, Vt.

I Will Send You 60 issues of nation's leading livestock magazine for only $1.00 if you want to raise better cattle or hogs. Write me today and get important March issue free. Sam Guard, editor, Breeder's Gazette, Box 111, Spencer, Indiana.

Berkshire hogs increase Net Profit. Leading meat-type breed, best forageer, prolific. Write for magazine, literature and list of nearby breeders. American Berkshire Association, 601B West Monroe, Springfield, Illinois.

"How To Break and Train Horses" A book every farmer and horseman should have. It is free, no obligation. Simply address Henry School of Horsemanship, Dept. 203-C, Pleasant Hill, Ohio.

Raise More Pigs Per Sow. Get latest developments on feeding, breeding, housing and handling in America's leading livestock journal. Subscribe today—12 issues $1.00, 60 issues only $3.00. Breeder's Gazette, Box 112, Spencer, Indiana.

Wisconsin Holstein and Guernsey Heifers and Calves for sale. Delivered on approval. James E. Welch, Mukwonago, Wis. Phone Eagle 278.

Oakland Guernsey Farm, Mukwonago, Wisconsin, offers 30 choice high grade Guernsey heifers bred and open. Best type, and breeding. Tested.

Registered Berkshires and Angus Cattle. Improved type. Farmer's prices. Write for details. Owen Stock Farms, Route 3, Spencer, Indiana.

Yorkshire Hogs. Imported English and American breeding. High-winning herd major State Fairs 1948—1951. Circular.
Valehurst Yorkshire Farm, Peoria, Ill.

Wisconsin Holstein Calves, registered or purebreds. Selected for type and production. Also Guernsey and Brown Swiss. George Piper Farm, Watertown, Wisconsin.

Train horses by circus methods. Gaited, stock horses, colts, cattle. Free booklet. American Horse Training Institute, Box C-A, Scammon, Kansas.

Keep Successful Farming coming your way each month.

FILM FINISHING

24 Hour Service—Super quality film developing. From any 8-exposure roll, either 2 "Clearbrite" prints or one Jumbo print from each negative—only 35c. Special enlargement coupon with every order. Write for free mailing envelope. Jumbo Photos, Box 9653A, Minneapolis, Minnesota.

Two "Everbrite" prints from each negative on 8 exposure film, including coupon for choice of two plain or one colored framed enlargement, 37c. Reprints 3c each. Flash Foto Finishers, Box 1122-R, Minneapolis, Minn.

Roll developed, 8 jumbo deckledge prints in album 35c. Each additional print 4c. 16 contact prints 35c. 8 contact prints 25c. Two enlarging coupons. Electrofoto Service, Oklahoma Co., Weatherford, Okla.

Only 25c for 8 beautiful enlarged prints from your roll or negatives. (Trial Offer). 16-50c. Quick Service. Willard Studios, Box 3533N, Cleveland, Ohio.

16 prints or 8 Jumbos from Roll, 25c with this ad. E. Skrudland, Lake Geneva, Wis.

Fast-Same Day Service! 8 oversized prints in attractive Plastic-Bound Book only 35c. 12-50c. 16-60c. Satisfaction guaranteed. Free Exposure Guide with first order.
Pleasure, Box 899-M, Philadelphia 5, Pa.

Prompt Service—Finest Quality. Two prints (deckle-edge) from each negative on roll 40c. Reprints 3c each. For clear sparkling prints send to Welch Photo Co., 2418-36 Penn North, Minneapolis, Minnesota.

Two Sets Of "Deckledge" Prints with every eight exposure roll finished—40c. Very finest quality "Deckledge" reprints 3c each. Jumbo reprints 4c each. Brown Photo Company, 1910-43 Emerson, Minneapolis, Minnesota.

12 Jumbos from roll developed 35c, 8 Jumbos 25c, 16 Jumbos 50c, 20 Jumbos 60c, 36 Jumbos 95c with this ad only. Skrudland Photo, Lake Geneva, Wisconsin.

Enjoy Successful Farming's helpful hints for better living each month.

RABBITS

A Practical Beginning To Successful Rabbit Raising. 48 Page Illustrated Booklet. Dime. American Rabbit Breeders Association, 40 A&CBA Bldg., Pittsburgh, Pa.

Build a better income with New Zealand Whites. Big Profits! Small investment! We furnish a market. Midwest Rabbitry, Dept. H, Monroe, Indiana.

Raise Guinea Pigs. Hospitals, Laboratories buying thousands, paying high prices. Markets guaranteed. Easily raised. Free Booklet. Taylors, B4256K, Hapeville, Georgia.

Renew your Successful Farming subscription early!

Raise Rabbits, Ready Market, food, fur. Beginners Manual 25c, journal year $1.00, sample dime. Standard Rabbit Journal, R-241-5, Milton, Pa.

Earn Up To $400 Monthly raising Angora or New Zealand Rabbits. Plenty markets. Particulars free.
White's Rabbitry, Newark 54, Ohio.

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GRADE AA	Str. Hatch Per 100	Males Per 100	Pullets Per 100
Austra X Whites, White Leghorns	11.90	4.90	24.90
New Hampshires, Barred, White, Buff Rocks, White Wyandottes, R. C. Reds	11.90	11.90	15.90
Mixed Heavies	9.90	9.90	13.90

Mixed: May be all pullets, males or Str. Hatch—$4 heavy breeds, per 100 ..... $3.90
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GRADE AA	Str. Hatch Per 100	Males Per 100	Pullets Per 100
Austra White, White Leghorns	11.90	4.90	24.90
New Hampshires, Barred, White, Buff Rocks, White Wyandottes, S. C. Reds	11.90	11.90	15.90
Mixed Heavies	9.90	9.90	13.90

Mixed: May be all pullets, males or Str. Hatch—heavy breeds, per 100 ..... $6.90
Light Breeds for Broilers, mostly males, per 100 .. $4.90
"AAA" Grade chicks 3¢ higher—all losses replaced first 2 weeks free. Free Poultry Circular. Send for it today.
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Mixed Heavies	9.90	9.90	13.90

Mixed: May be all pullets, males or Str. Hatch—heavy breeds, per 100 ..... $6.90
Light Breeds for Broilers, mostly males, per 100 $4.90
"AAA" Grade chicks 3¢ higher—all losses replaced first 2 weeks free. Free Poultry Circular. Send for it today.
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DEPT. 187 BLOOMINGTON, ILLINOIS

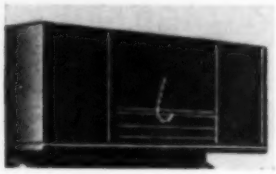
All around the farm

A page written by our readers

Recently, when my tractor battery became so nearly dead that it would not turn the motor over for starting, I mounted an electric motor on a 2x6 plank 2' long. I lined this motor up with a V-belt to drive the generator on the tractor. The same idea works with a car.—*N. H. B., North Dakota.*

As a means of grinding sickle knives and edged blades on the machine instead of removing them to a bench grinder, I have found my electric drill with small grinder attachment a real time-saver. I can take the drill anywhere there is current and do any kind of grinding.—*R. L. D., New York.*

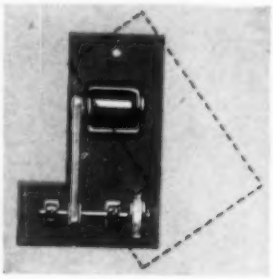
To make it easier to unload grain from our small truck, I made a sheet-metal slide 20" long x 6" wide, and welded 1" angle irons to it near the top and bottom, as shown. In the lower part of the metal endgate, I cut an opening 4" or 5" in height and 18" wide. I welded



$\frac{1}{4}$"x$1\frac{1}{4}$" strap iron, spaced to take the metal slide, vertically over the spacers on each side of the opening. This slide can be readily raised or lowered, and with a chain and cotter key, as shown, to hold the slide closed or open, the job is completed.—*V. Z., Iowa.*

Trouble with hay lodging in our hay chute has been ended by lining the chute smoothly with sheet steel. Metal roofing or siding material, or even metal such as that used in signs, will serve very well.—*R. M. C., Iowa.*

The small prescription bottles with droppers combined with stoppers are fine for putting on a drop of penetrating oil or rust solvent right where it will do the most good. I keep small bottles of this kind handy in my tool kit and shop. I find they make it possible to do many repair jobs at a saving of time and oil.—*E. A. S.*

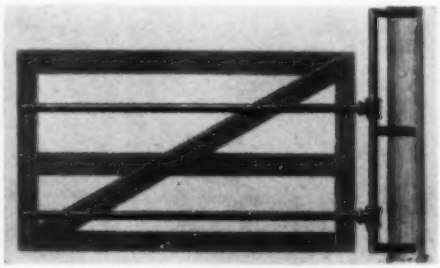


To mount my electric motor and grinder so that I could move it readily into any position, I made a base as shown out of 2x12 planks and mounted the grinder and motor. I mounted this on the heavy workbench with a bolt for a pivot, and the grinder can now be swung across the end of the bench, or to the side, or in any position the work may require.—*F. G. S., Wisconsin.*

Since we have made it a regular practice to clip hair from the udders of our cows, it has been much easier to produce cleaner milk and, therefore, a higher-grade cream.—*C. M., Iowa.*

When repairing an inner tube, it's sometimes hard to locate a slow leak because the tube won't stand enough pressure to make the leak bubble under water. To overcome this, I inflate the tube until it is firm, then wrap it with heavy cord or small-sized rope. I make the coils around the inner tube about an inch apart. This reinforces the inner tube so that it can be inflated enough to make even the smallest leak bubble when the inner tube is submerged and held under water.—*E. W., Wisconsin.*

I made a gate that has a sturdy hinge and can be adjusted for different heights by using $\frac{3}{4}$" pipe fastened to the post and a 1" tee as the hinge, with the pipe running the full length of the gate. I drilled holes in the $\frac{3}{4}$" pipe so it can be raised and cotter-keyed at any desired height.—*M. K., Indiana.*



When sawing heavy logs into stovewood or post lengths, we turn an old land roller upside down, 8' or 10' from the saw. The log lies across this land roller, with one end on the saw table. For each new cut, we push the log over the roller, which turns very easily. We can saw a lot of logs with a small crew, and with a minimum of lifting.—*G. M., Michigan.*

When I don't have the regular manufactured hangers, I make suitable conduit and pipe hangers from strips of heavy sheet metal, used as shown in the drawing.—*J. L. A., Iowa.*

Out of an old ordinary pulverizer roller, I have made a smaller implement, 4' long, with a hitch to pull it behind my tractor gang plow. The small size makes it fairly easy to pull. The bearings in the old implement were worn out, so I turned out new bearings from hardwood. The shaft was shortened and hitch members adjusted to the much narrower width. This outfit behind the gang plow acts as a packer and pulverizer on the newly turned soil, and it is a moisturesaver.—*J. W., Michigan.*

Occasionally a fuel or oil line on a motor will crack even though all the usual rules are followed. I have found that slipping a piece of rubber hose on the line to act as a vibration damper ends most of this trouble. Hose should fit snugly.—*S. E. B., Michigan.*

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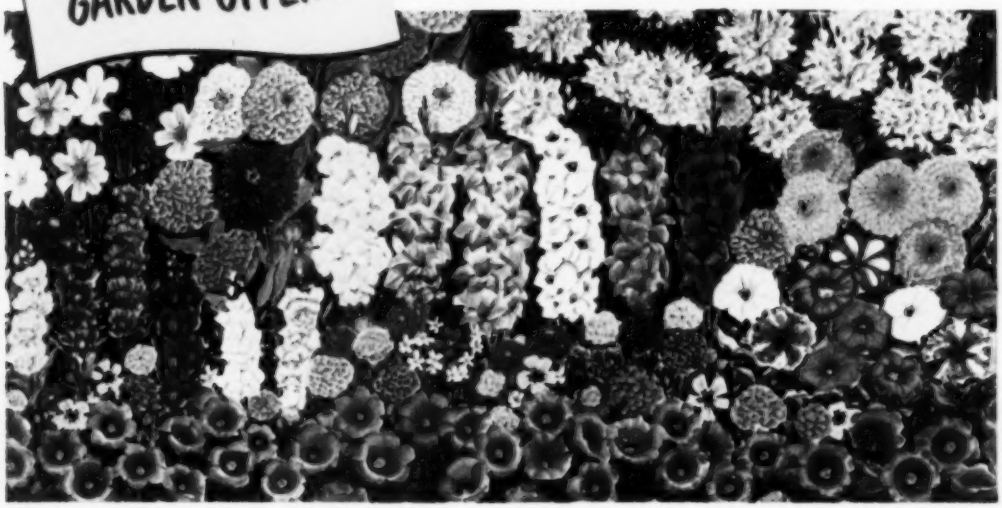

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